



Convexo-Prismatic Spectacles.

By DR. STEWART J. SPENCE, Harriman, Tenn.

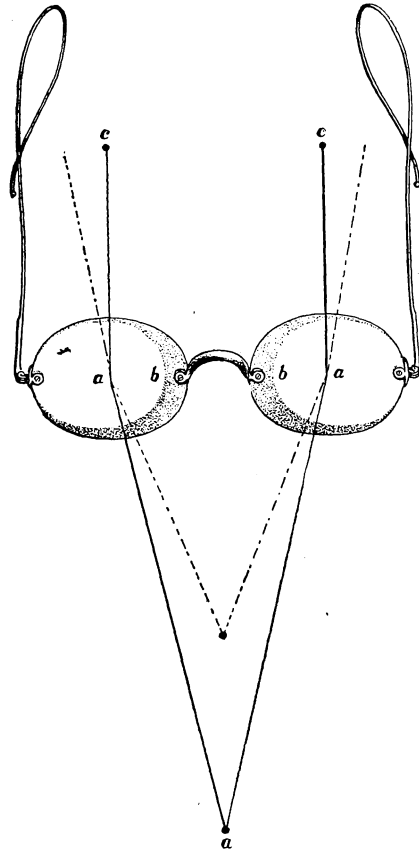
Having experimented very satisfactorily with the convexo-prismatic spectacles used by Prof. Sandolt, of Paris, and recommended by W. Booth Pearsall, of Dublin, in the *British Dental Journal*, I am pleased to lay before the profession the results of my investigation.

Some of the readers of the *ITEMS OF INTEREST* may remember that, in the March number of last year, I advocated the use of the watch-maker's eyeglass in dentistry. But, excellent though that form of magnifying glass is for the purposes of the dentist, it is surpassed very considerably by the convexo-prismatic spectacles.

The superiority of the latter lies partly in the fact that when both eyes are employed, you get the rounded appearance of objects which is obtained by seeing partly around them (and which, by the way, is produced artificially by the stereoscope), and partly in that when both eyes are employed an object appears larger than when seen by only one; and partly in that it is vastly easier to hold a glass to the eye by means of spectacle frames than by the strained compression of the orbicular muscles.

The uninitiated may inquire, "but why might not two magnifying lenses be fitted with spectacle frames and worn as are ordinary spectacles?" The answer is, they would necessitate the eyes being brought so near to the object as to require a fatiguing strain of the muscles which control the motions of the eyeballs. The eyes would be drawn to an unusual squint. To demonstrate this, hold a small object at about six inches from your eyes and look fixedly at it for a few minutes, when the sense of strain in the eye will become painfully evident. At a distance of twelve inches, the strain is ordinarily not appreciable.

Now, it is for the purpose of obviating this strain of the recti muscles that the prism is added to the magnifying lens. A ray of light passed through a prism, as we all know, is deflected from a straight line and turned off at an angle proportionate to the angle of the prism. So that if you should wear a pair of spectacles composed of prisms, and then



Look at an object six inches from your eyes, the rays of light leaving the object and entering your eyes via the prisms will be refracted (if the prisms be of the proper degree of angle) so as to enter your eyes in parallel lines. This is roughly depicted in the figure, where *o* is the object and *e e* the eyes.

(The bases of the prisms point towards each other. Thus their thickest portions are those proximate to the nose. Should one of them be shifted around half an inch or so, you would see double. Prisms are used by opticians for the correction of strabismus.)

But a pair of spectacles composed of prisms only, while allowing you to hold your eyes close to an object without strain, give no magnifying effect. Therefore, for dentists' use, the lens must be added. While experimenting with my optician, I had the use of his lenses and prisms in separate forms, but in the crystals made to our order in Chicago, the lens and prism is but one piece, one side of the glass being plane and the other convex, thus producing a crystal which at once deflects the rays and magnifies the object.

There seems to be no law, except that of convenience, to restrict the use of high magnifying powers. But convenience requires that the operator's face be about six inches from the tooth, and a lens of this focal distance is perhaps best for dentistry. The ordinary watchmaker's eyeglass is of higher power than this, having a focal distance of about four inches. Allowing one and one-half inches between the eye and lens, this would give but five and one-half inches from eye to tooth—rather too little when working on the molars. Besides, any slight change of position of the patient or operator throws the tooth out of focus more readily with a lens of short focal distance than with a longer one.

The glasses I have are of this six-inch focal distance and make an object seem about double the size it appears to the naked eye. This may not impress the reader as a great gain, but he must remember that the object is seen at six inches instead of twelve, which adds largely to its conspicuousness, and the gain is, in fact, simply immense.

Combination of the Spectacles.	<p>The prism must be proportioned to the lens. As a lens of high magnifying power has a short focal distance, a prism of proportionally high refractive power is required. With a prism too weak for the lens, the rays of light would not enter the eyes in parallel lines, but as shown in the dotted lines of the figure. Opticians have lenses and prisms proportioned to each other, and so numbered.</p>
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For some reason, the pair of glasses which I had made for myself give a clearer image when the line of vision travels through the thickest portion of the crystals, about *b b* in the figure. When I received them the crystals were scarcely an inch separated from each other, but by expanding the bridge I parted them by one and three-eighth inches, thus causing the lines of vision to pass them at about *b b*, greatly im-

proving the clearness of the image. I mention this, because this may, and should, be adjusted on the trial frames of the optician before the spectacles are made, and it were better if the line of vision be made to travel through the crystals at about *a a*.

Another error occurred with mine; the crystals were made full orbed, which made it difficult to look over them. This was very troublesome when reaching for an instrument, or when for any reason desiring to look away at a distance; for the instruments appeared in a blur, and the eye is strained by looking through these powerful glasses at anything beyond their focal point. However, I remedied this defect by grinding down the glasses to the shape known as "clerical." This, at the same time, effected an improvement by reducing the weight. I am thinking of similarly grinding away the lower third of each lens, thus making them so that they can be seen under as well as over. I am not, however, induced to this by their being still too heavy, for, although a quarter of an inch thick at their bases, they are not appreciably burdensome. They might have been made thinner by being less in long diameter, mine being one and one-half inches. But perhaps it is well that instruments so costly (\$12.00) should be "chunky" enough to not easily break from falling.

By having the frames made so that the glass will rest about half way down the nose, you get a larger image than when they are made to hug the eyes, and it is also easier to look over them.

I found it necessary to bend the frames to correct the angle at which the planes of the glasses stood to the line of vision. Unless this is an exact right angle, objects will appear slightly blurred, and lines of print will appear either bent upwards into an arch, or contrariwise, downwards, accordingly as the crystals lean towards or slope away from the eyes.

Having tested these glasses for hours at a time, both in operating and reading, I think I can safely say that they have no injurious effects upon the eyes; at least, no sensible strain is experienced.

Mr. Pearsall says: "For persons under forty-five years of age, a lens of plus 6 D, combined with a prism of 12° base in. for each eye, usually gives a working distance of from five to seven inches; but the glass for one or both eyes may have to be modified, and even a cylinder introduced to suit the focus. Unless the vision is perfectly normal, an oculist should be consulted."

Removable Continuous Gum Saddle Bridge (Allen's High Fusing), Resting on a Pivot.

By HOFZAHNARZT DR. EUG. WEUNSCHÉ, Dresden, Germany.

A removable bridge, to replace the premolars and molars, is to be fitted to the lower jaw. As a support, I have only the root of the first premolar. After this root has been prepared and beveled down to the

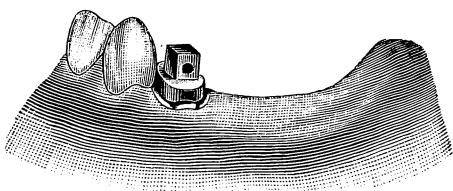


Fig. 1.

gum, I proceed to make, just as for Richmond crowns, a platinum ring one and one-half mm. wide (0.15 mm. fine), fit the same upon the root and take an impression with a suitable peg fitting exactly into the root canal. If the ring fits well, it will remain in the mouth, and is then put in its place in the impression.

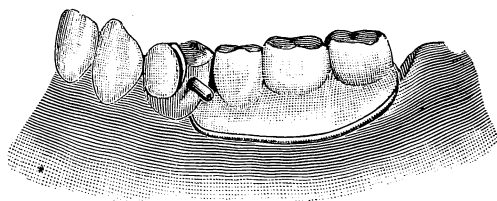
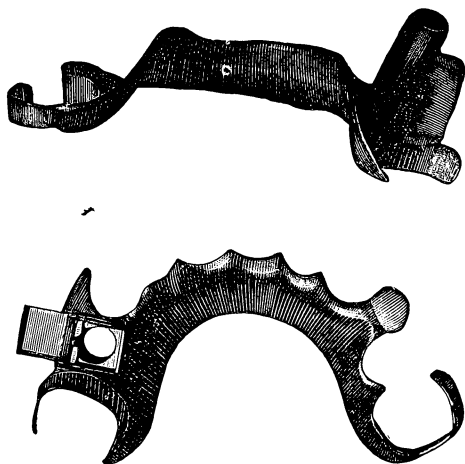


Fig. 2.

After the model thus obtained, the cap is soldered with ring and peg. The latter is then beveled down. Upon the cap I then solder a silver cube one mm. below the biting surface. I now make a platinum ring fitting over the cap and overtopping the silver cube. The interstices between ring and cube are then filled with closely fitting platinum pieces which are soldered to the outer ring. On the side corresponding to the front the ring is then cut, and the two ends thus made are joined by

means of a piece of straight, thin platinum plate. The ring is then crowned with a cap, and enamel fused into the front in form of a tooth. Both parts are now put together again and a hole drilled downward through crown and cube. A properly fitting peg with a head at one end, holds both parts closely together. I then make a platinum saddle for the next three teeth, articulate them, placed on wax, exactly, and with gold solder the teeth to the saddle. After this the enamel is fused on in the usual manner.

The body requires to be laid on in a double coat and baked twice, after which the enamel is painted on and fused. The double crown is



now fastened to the plate with hard wax and fitted in the mouth. The root cap is next cemented in, the covering cap with the enamel front soldered to the saddle, and the bridge placed in position by putting the crown over the root cap and fastening the two parts with the peg. The peg slants downward and is split to give it the effect of a spring temper. The enamel bridge looks very well in the mouth, and if fastened in this way sits very firm, serving for masticating purposes in the manner desired. Figs. 1 and 2.

(In our April number we published an article by Dr. Weunsche, describing a "Sliding Cover for Tube in Treatment of the Antrum," but overlooked the illustrations which are here given. Figs. 3 and 4. The article will be found on page 262.—Editor.)

SOCIETY PAPERS

Disease of the Antrum.

By ROBERT H. M. DAWBARN, M.D., Professor of Surgery in the New York Polyclinic College; Visiting Surgeon to the New York City Hospital.

Read before the Central Dental Association of Northern New Jersey, April 16, 1900.

As being the commonest form of antral disease, I shall devote the greater part of this paper to a study of empyema.

**Causes of
Empyema
of Antrum.**

I think one may perhaps assert with safety that hypertrophic rhinitis is, as a predisposing cause, the chief factor both of this and of frontal sinus disease, by obstructing through swelling, especially of the middle turbinated erectile bodies, the nasal exit of the antrum (See Fig. VI. [b]), and also of the infundibulum which drains both the frontal sinus and the anterior ethmoid cells.

Polypi, if not the chief cause, at least are often the witnesses of the antral trouble. The Swiss Specialist Loubi* claims that thirty-five per cent of chronic empyemas of the air sinuses connecting with the nose are accompanied by polypi. In Germany, Alexander† in studying one hundred and forty-nine cases of nasal polypi, found ninety of them to be afflicted also with suppuration in one or other of these sinuses. It is a question whether the polypi cause the antral disease, or are a result of it. Bosworth takes the former view; Fränkel the latter.

A coryza not rarely spreads by direct extension along the mucous membrane, into the air sinuses; as an accompanying faceache, or frontal headache behind the eyebrows, indicates.

Normally, upon blowing the nose sharply, a suction is produced at that instant in both antrum and frontal cells, whereby any discharge tends to be drawn into the nose, even the thick muco-pus with which a coryza terminates. The principle of such emptying is that of the

*Corresp., Schweizer Aerzte, June, 1897.

†Archiv Larung. V., 1896.

Sprengel air pump; also that of the apparatus devised by Dr. Snow, a dentist of Buffalo, some twenty-five years ago, and regularly in use today, whereby the saliva is continually drawn off from the floor of the mouth by a curved glass tube. But when through nasal hypertrophy, the natural openings of antrum and infundibulum are nearly closed, such muco-pus must remain in the air sinuses. •It becomes with time more and more rank and stale, as microbic toxins and ptomaines multiply in it. And to the writer, this condition is abundantly able to explain a resulting empyema, and also a resulting growth, from irritation, of polypi in those cells and in the nose, the irritation varying in



Fig. 1 (a) and (b).—Upper maxilla of a little child. Note teeth not fully erupted. Also relatively small size of antrum.

degree from extreme, when there is a streptococcus involvement, to very mild or almost absent, when it is staphylococcic in nature.

Of course la grippe or influenza is a prolific source of coryza, and hence of empyema, when previous hypertrophic rhinitis invites this, as we have just seen. This also is true of measles, in which a running nose is always one symptom; also of nasal erysipelas, and certain other exanthemata. Bad nasal surgery may be a cause of obstructing the ostium maxillare and the fronto-nasal canal, cautery too near them being followed by contraction, as after other burns. Fränkel has called attention to this, besides other writers.

I must not fail to mention frontal sinus suppuration, also anterior ethmoiditis, as a cause of antral empyema—a cause too little recognized. When we remember that the opening of the infundibulum and of the

antrum are side by side in the middle meatus, the former being in front, it becomes plain that pus escaping from the infundibulum is as likely to flow directly into the antrum as past it, while the head is recumbent. And if the frontal sinus drains its pus freely, and this chances to be of the mild or staphylococcus variety, there may be no symptoms in the region of the eyebrow and glabella to invite suspicion to this cause of trouble. When in an antral case the suppuration keeps up unaccountably after operation, although no bare bone, polypi or other cause be found, we shall always do well to drill into the frontal sinus of the same side, for exploratory purposes, either entering at the inner angle of the orbital arch, through the eyebrow, which is the safer way, or as some advise, by paracentesis from within the nose, passing a trocar and cannula



Fig. 2.—Upper maxilla of a young man. Note the rather small and thick-walled antrum.

up through or in front of the anterior end of the middle turbinated bone, and remembering that should we go higher by this latter route than the nasion, the brain itself would be in danger of attack.

To what extent is the specialty of dentistry directly interested in antral disease?

**Teeth Possibly
Affected**

From the Antrum.

Here there is a wide divergence of opinions. Most of you probably believe that suppuration at the roots of upper bicuspid or molars is not rarely responsible for a coexistent antral empyema. But may this not be a case where cause and effect are confused? May not the pus-filled antrum at length convey poison to the bloodvessels and membranes of teeth so

closely related to its floor?—which sometimes even pierce that floor? If so, this is an added reason for your trying to recognize antrum trouble promptly, and urging immediate surgical intervention, thus protecting the teeth from a continuance of this peril.

As indicating the prevailing opinions on this question, I quote as follows from a very interesting and able paper by Dr. Stout, of Philadelphia*: “Dmochowski after making one hundred and fifty autopsies holds that but few cases have a dental origin (*Archiv. f. Laryng.*, Bd. . . No. 3). Fletcher in five hundred skulls, in two hundred and fifty-two of which there were abscesses of the upper molars, found only twelve molars perforating the floor of the antrum. (*Journ. Laryng.* May, 1890).

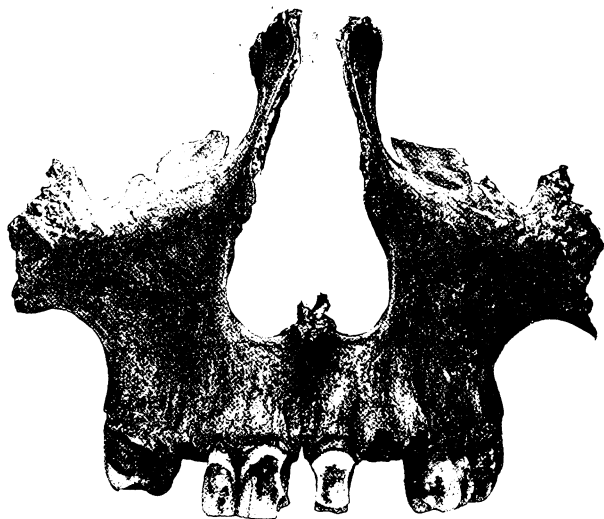


Fig. 3.—Upper maxillæ of a middle-aged man.

Carious teeth would appear to be an effect rather than a cause of antritis. (Fränkel).” Stout himself states that he has never seen a case caused by carious teeth. On the other hand, Mears, of Philadelphia,† asserts that the transmission of inflammatory action from carious teeth, which are in relation with the antrum, is the most frequent cause. Personally, I have not, as yet, seen an ulcerating root followed after a distinct interval of time by antritis; and yet this is so plainly a possibility that, sooner or later I expect to run across an instance of empyema of the antrum so produced. Traumatism from blows, also face exposure to extreme cold, are occasionally responsible for empyema.

*Philadelphia Medical Journal, August 26, 1899.

†International Text Book of Surgery, Vol. II., p. 48.

Among rare dental causes, my colleague, Dr. Wyeth, at the New York Polyclinic School, has recorded* an antral abscess started by a supernumerary tooth.

Facial neuralgia ("Fothergill's faceache"—or *tic douloureux*) is occasionally blamed for the patient's misery, when the trouble under discussion is the real cause. And as appealing directly to dentists, we all know how often unoffending teeth are sacrificed—a true slaughter of the innocents, sometimes half of all those on the upper jaw—to the

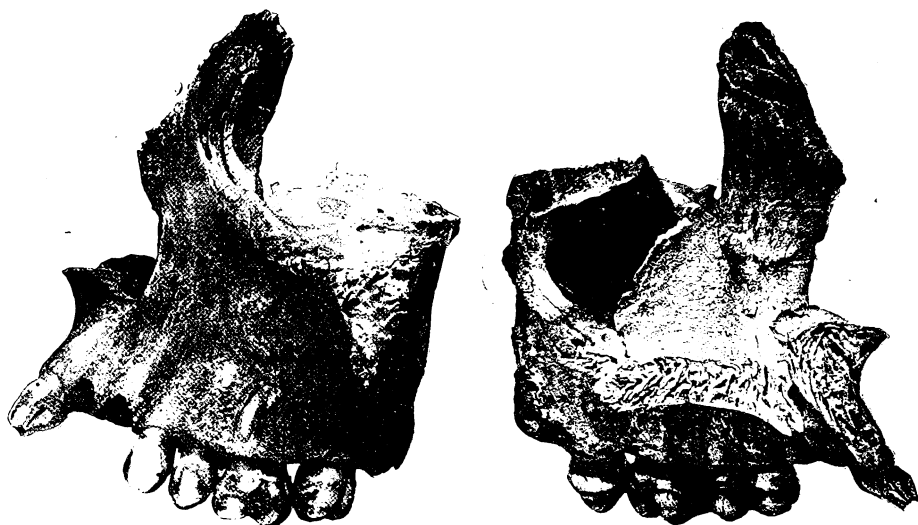


Fig. 4.—Two views of left bone of Fig. 3. Note the increased capacity of antrum.

unwisdom of the patient, or sometimes of the family doctor, or even of dentists, who thus disgrace their specialty, when emptying and draining the antrum would promptly have cured that suffering.

So much for the question of causation. How is the diagnosis made?

Methods of Diagnosis.

There are two accurate and positive methods, and one that is only presumptive, but still reasonably certain. The latter depends partly on history of faceache, accompanied by discharge of muco-pus from the nostril on the aching side more than from the other. Sometimes a periostitis over the thin wall of the antrum leads to a distinct

*New York Medical Journal, Dec. 12, 1893.

swelling and tenderness, or there may be an actual bulging of the thin bone from pressure within, obliterating the canine fossa of this region. If the patient be caused first to use his handkerchief vigorously, and then to lie in such a posture, with the head low, as to drain the antrum into the nose, and after a few minutes the handkerchief be again used, and presents evidence of unilateral discharge, the diagnosis is reasonably certain.

In some people, with forehead mirror and reflected light, one may probe and even with a curved cannula wash out the maxillary sinus, through its ostium; and this would settle the question of diagnosis at once, of course.

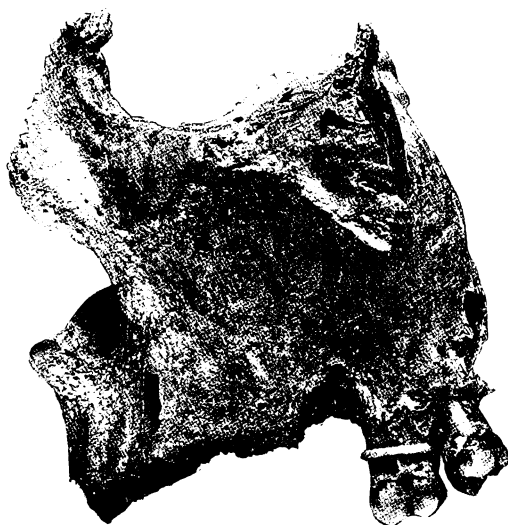


Fig. 5. (a).—Upper maxilla of an old man.

By the aid of a small electric light used in a dark room, we can instantly determine whether the antrum is at fault. Indeed we can sometimes make the diagnosis the length of a room away. When the little light-bulb is placed against the roof of the mouth and the mouth is tightly closed, light escapes in various directions, the face resembling somewhat the grotesque pumpkin lantern of our childhood. Beneath the orbits are seen two large roughly triangular bright areas, due to light that has traversed the air of the antrum as well as its bony walls. But if one antrum contains some turbid fluid, pus for instance, this side of the face will be comparatively dark, in consequence. An antral tumor would of course have the same effect, but both conditions would demand operation.

Anatomy.

Before we discuss this, let us look at the anatomical points that especially bear upon it in the specimens shown. Observe that our problem is to drain a rigid-walled abscess cavity, the natural exit from which is very small and is at the junction of its roof and inner wall. Fig. VI. (a) and (b). Note that the cavity may extend from the canine fossa, in front, to a point a little behind the roots of the last molar. These dimensions vary greatly, and the floor of the sinus regularly lies nearer to the first molar than elsewhere. In childhood the antrum, like the frontal sinus

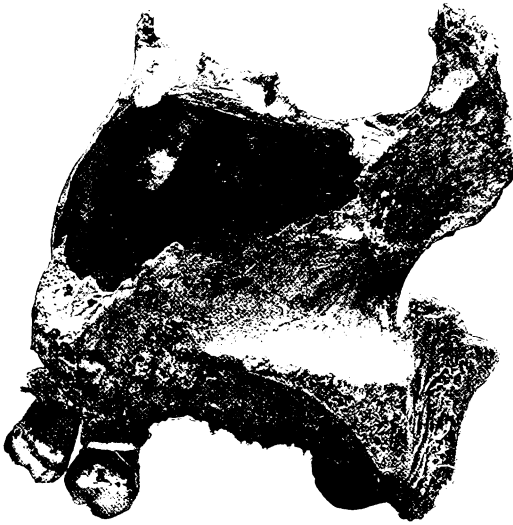


Fig. 5 (b).—Inner view of same.—Rear and inner walls partly chipped away to show their thinness at this age; also the great capacity of the antrum.

and the mastoid cells, is quite small. It increases in capacity even after adult age is reached, by a thinning of its walls, so that extremely old people have the most capacious air sinuses, as a rule. See Figs. I, II, III, IV, and V.

The rear wall is, in rare instances, lacking in places, these being covered by the periosteum. An instance of this I have handed you. Fig. VI (fresh specimen). But regularly the front wall is the thinnest, and just above the alveolar process it is like a mere egg-shell, being penetrated at a tap. And here, near the first molar for instance, we may drain with utmost ease, entering at the junction of the floor and front wall of the antrum.

There are three chief routes of entrance. The first has the dignity of age, and nothing else to recommend it. I refer to extracting a tooth and drilling up through its socket. Whoever does this, even should the tooth be partially decayed, needlessly sacrifices a good friend; also he chooses the thickest bone through which to go, and the longest distance. Consequently, if there be carious bone in the antrum, requiring scraping or the gouge for its removal, or the thin, if he needs to destroy semi-partitions which sometimes divide the cavity into several pockets, he is in trouble; and he cannot readily enlarge his bony wound and examine the sinus with his little finger—to do which is often the part of wisdom, and may clear up a puzzling case of a tuberculous nature.

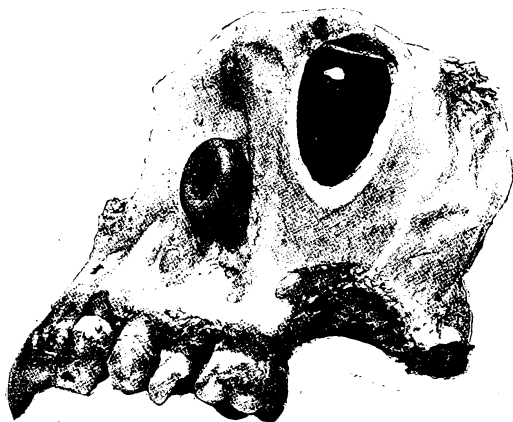


Fig. 6 (a).—Front and outer side of sup. maxilla at middle age. Wall sawn away, exposing antrum; also the natural opening into middle meatus of nose. Also indicates proper site for operation, and rubber drainage tube with collar, in place, as described in text.

for example. Again, during the act of mastication, the tendency is for food to be forced directly up through the alveolar drainage canal just made, and into the antrum. I have known this to happen. These are all reasons why this antiquated and archaic plan should be dropped.

The nasal route is better, though not the best. Here the drill enters the outer wall of the inferior meatus about two to three centimeters back of the nostril. The level of the floor of the nose is distinctly higher than that of the floor of the meatus, hence we do not here drain from the bottom; and, if we penetrate the meatal wall as low as possible, the bone is much thicker than that over the front of the antrum. The operation is also less easily performed on the score of space and light than at the site to be mentioned, and the patient less readily removes for cleansing, and re-introduces, his own drainage tube.

The operation of election is performed as follows: This may be done nearly painlessly, by using either cocaine or eucaïne, provided the case is one in which a curved tube can be passed from the nose into the antrum, which is then flushed out, and left filled with the solution of the anesthetic. The lip being next lifted, the anesthetic is introduced by aid of the hypodermic needle at the point where the cut is to be made. Such double anesthesia (inside and outside) is by no means always practicable; and since anesthetizing the outside periosteum and even the bone, by needle, will not render painless the work upon the lining membranes of the antrum, which must be cut through and probed, and otherwise handled, I prefer, as a rule, general anesthesia for this operation.



Fig. 6 (b).—Inner view of same (a fresh specimen, with mucous membrane in place.) Observe the natural opening of the antrum into the middle meatus of nose.

The lip being lifted, an incision three centimeters long is carried transversely above the alveolus, and at the junction of lip and cheek, to the bone. Its midpoint is preferably above the first molar or second bicuspid. (See Fig. VI (a). The periosteum being retracted, the bone, which is very thin, is removed with gouge or dental engine over an area capable of admitting the little finger, if the case is one of long standing, and hence demands thorough exploration for bare bone, polypus, etc. If acute, a smaller opening, perhaps the size of a lead pencil, will serve. The

membranes within (periosteum and mucous membrane) are incised crucially to the same extent, and the cavity at once flushed out with a saturated solution of boric acid, or any other mild antiseptic. With a probe, or with the little finger, bare bone, polypi, very thick and chronically diseased mucous membrane or other abnormalities, are sought for, and if found, treated by the thorough use of the Volkmann's sharp spoon, followed by douching to remove the detritus. And then without delay the antrum is firmly filled with a packing previously made ready. This is a long and very narrow strip of sterile gauze wrung out of some weak antiseptic solution, and then well rubbed with aristol, the free end being left between lip and gum. This treatment promptly checks the bleeding from the antrum, which is otherwise apt to be rather annoying; and the gauze is only removed after forty-eight hours, as an average time. Subsequent treatments are without anesthesia, or with only a preliminary cocaine or eucaïne compress for a few minutes at the wound. The cavity, at these dressings, is washed out with hydrogen peroxide, neutral. This drug was not used at first, because contact with the flowing blood decomposes it instantly, just as pus does. To be sure, it is also a fairly good hemostatic, but compression with aristol gauze is a better. Following the peroxide, the cavity is packed exactly as before, except much less firmly.

As a rule, this dry packing, changed every few days according to need, is the best method, and is strikingly so where there is bare, carious (i. e., tubercular) bone within. Diluted tincture of iodine flushing, in the proportion of a drachm of the tincture to ten pints, which is about one one-thousandth in strength, or used weaker if this is uncomfortable, plus a packing of gauze rubbed with some one of the half-dozen powders of an iodine nature, aristol, nosophen, europen, for example, is unquestionably the preferable method in tubercular cases. As elsewhere in surgery, iodine is the best remedy we have, locally, for tuberculosis.

Some surgeons prefer, in ordinary cases, washing out once or more daily, and using no packing. If the patient himself must carry out the subsequent treatment, this is doubtless the better method; but otherwise, I think not. A tube must be worn, for the method by douching alone; and perhaps as simple as any, and devoid of trouble and expense, is the writer's plan, of making, upon a short piece of soft rubber drainage tubing, which is a tight fit for the bony opening, a collar one-half centimeter wide, by turning the tube inside out for this distance. A stitch through tube and collar will, if need be, retain it in shape. The collar prevents the tube from slipping inside the antrum, and the lip prevents the tube from slipping into the mouth. Fig. VI. (a). Samples of tubing so prepared are shown you tonight.

It is a simple matter, with this tube in place, to avoid the entrance of food into the antrum. Differing from the route through the socket of a tooth, chewing does not here tend to force it directly into that sinus. And with a little practice, the patient habituates himself to doing most of his mastication upon the opposite side, which of course is, in any case, advisable. I have not mentioned, but it is self-evident, that ulcerated or carious teeth beneath the antrum need the usual attention, whether they be regarded as the effect or the cause of the antrum disease.

The length of the treatment before an absolute cessation of discharge is reached is very variable, ranging according to the cause and previous duration of the empyema from a very few weeks to many months; but the relief from discomfort or even suffering is almost instant, in most cases.

Since my topic covers "Disease of the Antrum," I ought surely not to end without discussing, even in so brief a paper, the relation of dentistry to malignant disease filling this sinus, whether sarcoma or carcinoma. The following case bears directly upon this subject:

<p>Diagnosis of Malignant Disease.</p>	<p>Mr. A. M. J., American, lawyer, age twenty-six, married, no venereal history; family history, negative; in August, 1895, noticed a slight swelling of the gum opposite the first and second bicuspid teeth of his upper jaw, left side; and by October of the same year, a slightly greater degree of swelling and some aching. As this persisted and was attributed to toothache, he had the second bicuspid drawn. Its root was found to be distinctly a little soft at its tip, evidently the result of a process of decalcification. Dr. Campbell, of Mount Vernon, lanced the gum twice, without benefit. In April, 1896, the patient was in much the same condition, with a very slight degree of swelling also of the roof of his mouth, upon his left. He went at this time to consult Dr. J. Morgan Howe, of New York, a dental specialist, who strongly suspected malignancy, and sent him to me. I used a simple test which has, in a number of instances given me rather early warning of such trouble; namely, the power which malignant bony growths sometimes manifest, of decalcifying for a considerable distance the otherwise seemingly healthy bone which surrounds them, and upon or in which they are growing. By use of an ordinary sewing needle (used instead of a surgical one, in order to cause less bleeding) it was made evident that the palatine process of his left superior maxilla, also portions of the alveolar process, also the bone over the front of the antrum, were penetrable about as readily as fibro-cartilage would be; whereas, unless this pathological condition were commencing, the bone here, normally exceptionally dense, should not permit a sewing needle to engage by so much as its point.</p>
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It was thus readily discovered that the entire left antrum was filled with a solid new growth. (His upper jaw and tumor are presented here tonight, to demonstrate this decalcification.) It will be remembered that the root of the bicuspid extracted six months earlier, and which ought to have been of the stony hardness normal to the crista petrosa, was soft at its tip. This should at once have awakened suspicions of the true nature of the trouble.

At the socket of this bicuspid, I removed a piece of softened bone, and sent it to Dr. Vissman, pathologist to the Polyclinic Hospital, who pronounced it large spindle celled sarcoma.

Mr. J. was admitted to that hospital, and there I excised his left external carotid, assisted by the house staff, upon April 18th, 1896. Primary union followed. He was dismissed for a short period of recuperation, after which, in Dr. E. Eliot Harris's private hospital, in this city, the work was resumed and completed. Upon May 2, 1896, assisted by Drs. Howard Gillespie Myers and Edward L. Williamson, and in the presence of Dr. Joseph D. Bryant, I first excised his right external carotid, and then removed the left superior maxilla, the latter operation being in consequence an almost bloodless one.

The neck wound healed by primary union; as also did the skin incision in the jaw operation. The results were ideal. Dr. Bishop, of New York, was selected by Dr. Howe to make a half upper denture with a plumper for the cheek; and although the entire left upper jaw is gone, no one would ever suspect it. The patient, after four years' interval with no sign of recurrence, kindly consented to appear before the New York Surgical Society, together with five other and similar cases, upon the occasion, March 28th last, of my reporting the results of twenty-four instances of the starvation of cancers fed by the external carotids, by cutting out this artery from end to end, tying off in the process all of its eight branches, and doing this carotid excision upon both sides of the neck. There has been but one death in all that number due to the operation, and that patient could not possibly have lived without operation much longer with his huge and ulcerating cancer. The method certainly brings a ray of hope to the otherwise hopeless. It is one in which I am intensely interested, and I believe that it has a great future.

In conclusion: Upon you as dentists devolves a duty additional to that of devotion to your specialty. For as members of the great body of our common profession, which includes all specialties, when your trained observation notes any serious abnormality about your patient's person, of which he is perhaps not aware, for instance, pharyngeal "adenoids," enlarged tonsils, nasal obstruction from turbinated hyper-

trophy, leucoplakia lingualis or buccalis, a doubtful ulcer of tongue or gum, an epulis, or other tumor, or those antral troubles discussed herein, loyalty to his best interests demands that you should speak of it at once, and urge a consultation, at least.

Thus, as a parallel case, the oculist, testing for glasses, and noting through his ophthalmoscope the picture presented by nephritic retinitis, is not rarely able, even before the family doctor has suspected the danger, to diagnosticate Bright's disease; and thanks to this early information, prompt treatment may greatly prolong, and perhaps even save, the patient's life.

A similar promptitude upon your part in a case where softened bone, a slight degree of tumefaction, or other early sign points towards malignancy, may well be the means of saving a valuable life, for nowhere in the body is early operation more hopeful. And should you, from certain indications, suspect antrum empyema, the reasons have already been named why, if only to protect the teeth, you should not delay in advising surgical intervention.

Even a single instance, in your experience, of such early diagnosis, antedating that of the family doctor, should be to you a lasting source of proper pride in your skill, and of gratification that you have been to the patient a true friend in need.



Ethyl Bromide.

(Extract from paper read before "La Sociedad Dental Mexicana" in March of the present year; 250 Applications of Ethyl Bromide in Dental Surgery.)

By DR. RICARDO FIGUEROA, City of Mexico, Mex.

For some time I have given particular attention to the extensive use of ethyl bromide for operations in oral surgery, and having obtained magnificent results, I take the liberty to advise my colleagues in general to make use of and study its properties in dental surgery.

Nunnally, in 1849, was the first to use it as an anesthetic agent, its administration to produce complete anesthesia being easier and more agreeable than chloroform; its effects disappear quickly, an advantage the other general anesthetics do not possess. On consulting a number of authors of several countries who have used the bromide, I found uniformity of opinion in their operations, in that they had no dangerous accidents as with the greater number of the other agents. They, therefore, recommend the use of this one as a powerful ally in alleviating pain in operations of dental surgery.

From the number of operations I have performed with the use of bromide, I will cite some with a success as complete as could be desired.

Cases from Practice.

Sr. J. Gonsales R. age fifty, rickety constitution, bilious temperament, presented himself at my office for treatment of an affection in his mouth that had caused him acute pain for a period of four months, during which time he consulted several doctors who agreed upon the performance of a surgical operation and selected me to perform the same. The operation was very brief. All there was to be done was to cut out a necrosed sequestrum in the lower jaw that adhered to the bone by its two extremities. I used a fifty mm. circular saw with the dental engine, the bromide acting very satisfactorily, for the patient did not experience the slightest pain or trouble after the operation, he being able to go home immediately in his normal state.

Case 2.

Josefina White, age seven, nervous temperament, was sent to my office by a physician who had treated her for some general affections, to have four

upper incisors extracted, which I did with the help of the bromide without any incident but a nervous excitation, which disappeared when I gave her some cognac, the operation being performed to the satisfaction of the physician, and without injury or pain to the patient.

Case 3. Fernando Droumond, age seventy-five, sanguine temperament, was operated upon under administration of bromide. The operation was to be performed on the left upper jaw, for the removal of a growth extending from the lateral incisor to the first molar, and, as in the preceding case, the result was in every respect satisfactory.

It would be too long to enumerate here the ever increasing number of cases and operations for which I have used bromide as the anesthetic agent.

**Method of
Administration.**

The bromide must be administered with an inhaler lined with stiff linen containing within a cotton wad to receive the liquid, of which we use about three to four grammes, telling the patient to take long breaths, and repeating the dose every two minutes until complete anesthesia, which regularly sets in after from six to twelve minutes, according to the nature of the patient.

In conclusion I will say that its action is summed up thus: Moderate acceleration of the pulse and respiration, slight agitation, sometimes muscular activity, flushed face, perspiration and complete anesthesia. Consciousness returns one minute after removal of anesthetic agent.

The ethyl bromide is considered the intermediate between chloroform and ether. As a local anesthetic it is the only one that may be used in cauterizing, as it is non-inflammable. Not being caustic, it may be used subcutaneously or upon the mucous membrane by sprinkling it.

I hope that my colleagues may obtain the same good results that I have until now had, in company with several colleagues of this capital, from the use of the bromide.





Second District Dental Society.

March Meeting.

A regular meeting of the Second District Dental Society of the State of New York, was held on Monday evening, March 12, 1900, at the residence of Dr. U. G. Woolley, corner Sidney Place and Joralemon street, Brooklyn. N. Y. The meeting was called to order by the president, Dr. Kraemer. The secretary read the minutes of the last meeting, which were approved.

One of our dental "parlors" has for reference a
The Secretary. list of at least twenty-five or thirty physicians, who recommend that place. It seems to me it is quite "quacky" of these physicians to allow their names to be printed in this way and distributed. Would it not be wise for the Society to take action in regard to this matter?

I move that the secretary be instructed to send
Dr. Hill. a communication to the Kings County Medical Society, and also the Homeopathic Society, or to their committee on ethics. Motion carried.

There is a little matter which has interested me
Dr. Barker: very much within the past few months, which may
Preparing Models also interest others. Last summer I had occasion
for Illustration. to photograph some plaster models, and from the difficulty I experienced in getting good pictures of them, I arrived at the conclusion that very much better results than are usually obtained could be had by proper staining of the models. From a photographic standpoint there is nothing more difficult than a perfectly white object. Most of you have seen photographs of a lady in a white dress, and you know how it looks. That is the fault with plaster models, as they are photographed for the journals—they lack definition and perspective. I set about to discover what was the proper color to stain them,

and the proper color to use to make the best picture. I made a large number of models and stained them a number of different tints and photographed them, and from those results I found what would produce the most natural picture of the model. I have some pictures here tonight which I will show you, also the model properly stained. Before showing it, I would like to say a word about the picture. After I had completed my experiments, and got ready to make a demonstration, I asked Dr. Ottolengui if he would give me a case for the ITEMS OF INTERSET—some model that he had occasion to use. It happened that he had on hand a very bad case. It was about as difficult a proposition as could be imagined. The models themselves were not good; they were full of flaws—knife scratches, air bubbles and other defects. Aside from that, the dentist who sent them in had shellacked them. You cannot imagine a more wooden effect in a picture than that from a shellacked model. It is impossible to get other models of these cases, as they are models of the mouths of Indians out West, and it is impossible to reproduce them. Before I could do anything with the models, I had to duplicate them. I am under obligations to Dr. V. H. Jackson, of New York, who has shown me a method of duplicating whereby the model can be exactly reproduced. I had to vary from his process considerably however. His process calls for the use of kerosene oil in one stage; that imparts a very well defined oily surface to the plaster duplicate, and as the color is applied in water color, it would not strike evenly, but would make a blotchy and blurred surface. However I succeeded in overcoming all obstacles, and made models and photographed them. I have here pictures of those models as they were finally reproduced. Let me further say that when Dr. Ottolengui gave me the models to work upon he said he had had half-tone plates made of them, and they were so poor he would not use them. I took the plates and had some prints struck off from them, and you can judge how poor they were. The prints from the poor plate are on the side; the good ones are in the center. I have also one of the models here. The proper shade or tone is a very light bluish drab or stone color. It produces a picture which looks something like a marble model. I think it is safe to say that I can take any plaster cast and by so treating it, make a better picture of it than can be made by any other process without staining it. What will be the result of this, I do not know; whether the publishers of magazines would care to go to the trouble of doing that for the sake of art or not. I set out to solve the problems, and I think I have solved them.*

* The illustrations from models stained by Dr. Barker were used in the April number, pages 251-252
—EDITOR.

Dr. Ottolengui.

I feel as though I ought to say something on this subject. The half-tone picture has been gradually driving the wood-engraver out of business. I think a great many of the men who are as old as I am, or older, can remember the time when the magazines were illustrated entirely by engravings on copper or wood; but the camera and the methods of reproducing camera pictures have practically superseded that everywhere, except for special work. In dental work, the main reliance is still on the wood-engraver. A wood cut of the size of that model would cost from \$15 to \$18; a half tone of it would probably cost \$3 or \$3.50. It becomes manifest where a magazine is limited in the amount of money to be expended for illustrations, that if adequate illustrations can be obtained by half-tone photographs, many articles could be illustrated which are not illustrated now.

For instance, a man sent in an article descriptive of the teeth of Indians. I think the subject was the Indians' immunity from pyorrhea. This is one of the models, and shows the edge to edge bite, and the fine condition of the gums, although there is so much use of the teeth. That article is only about a page long, and it has been in type about nine months. It seemed to be valueless without illustrations, and yet it did not seem to be worth \$30 or \$40 to have it illustrated. I understand that our engraver took the models, put them in front of his machine, and half toned them; not having a choice of illumination, he could only get a poor picture, and besides, the model was very bad and was shellacked. The article now, thanks to Dr. Barker, can be printed. It has been due to the very excellent results that he has obtained by his experiments, and I shall be glad to give as much publicity to it as possible, for the sake of other magazines and the readers of all magazines. There is no doubt that a perfect model, properly photographed and properly reproduced by half-tone process, will be a more accurate representation of what it is intended to show, than any wood engraving would be. The wood engraving we have now is largely imaginary. The models are often bad at the outset. You will be told that certain teeth are missing, and you are expected to supply a picture of the teeth that the author says should be present. I should be glad to see Dr. Barker's valuable work taken up and used by the magazines. The only question of difficulty about it, is getting good models to start with. It takes a great deal of time to take a bad model and make a good one out of it, and the journals are not all supplied with dental assistants who could reproduce that kind of work, and they do not care to spend the money on it.

Dr. Jarvie.

I would like to say a word in regard to this discovery of Dr. Barker. In the way of art, this is very valuable. He has evidently experimented to some

purpose, with a result that is surprising, and which makes a very valuable addition to the art of illustrating. By proper coloring, he makes a very lifelike result, and I consider it a very valuable discovery in the field of art illustration. I think because this is so valuable that he ought to be given very great credit for it.

Dr. Barker : I did not go into detail as to how the color was to be applied, but if anyone is interested in it I shall be very glad to go into further details.

Dr. Van Woert : As you are on the subject of pictures, I might say that some three or four weeks ago I was called upon by a physician in the city to make an X-ray picture, to see if I could discover a stone or a number of stones in the kidneys, which experiment was not

**X-Ray
Photography.** a success. In making it, it led me to think possibly we could better the work of X-rays, after having had some little experience in general work, and I did make some experiments. With an exposure of fifteen seconds on the Cramer isochromatic plate I obtained a perfect differentiation of all the materials namely, the coat sleeve, the cuff, the shirt sleeve, the undershirt and the bones and muscular tissue. Therefore, if instead of using the ordinary X-ray plates we use the isochromatic plates, or the same emulsion put on film, very much better results could be obtained. It would cut down the exposure to a minimum, and there is a bare possibility of a differentiation of a part of the circulation by a careful examination of the predominant rays in the X-rays with a spectroscope. We know we can get differentiation of clouds, smoke, etc., with an isochromatic plate, if the atmosphere is clear, and if not, with a ray filter and the isochromatic plate. I have thought considerably of the possibility of some scientist splitting up the colors composing the X-ray, and finding out what color would be necessary to overcome the difficulty in X-ray work with the screen, as is done in general photography. To use a ray filter is out of the question, as the rays do not penetrate glass. Celluloid of the proper color seems to me could be placed between, and pictures taken of the teeth. With us it is a very common thing for all abnormalities that present themselves, to be immediately settled by a skiagraph. The nervousness of the patient from a long sitting has practically been overcome, in that with ordinary plates the exposures have been diminished to only one or one and a half minutes. I believe with the emulsion that is put upon the isochromatic plate and the introduction of a proper screen, we could get better pictures.

Dr. Ottolengui:
Ready Removal
of Gold Crown.

On Friday afternoon Dr. Turner called on me and asked if I could come over tonight and talk about something. He suggested that I might think up some incident of office practice. About two or three minutes after the doctor had gone, a patient came into the office. I had put on my coat and was ready to leave. The patient had a very sore tooth; it matters not what made it so. The gums were inflamed and there was a gold crown on the tooth. It was necessary to remove that crown. It was ten minutes to five. I took off my overcoat first, then I took off the crown, and put on my overcoat, and it was five minutes to five. It struck me that perhaps that might interest you, especially when I add that I did not split the crown. The crown was a good one; it was not the fault of the crown, and therefore if the crown were taken off and the tooth relieved, and the crown not mutilated, it would be handy to put back again. This is my method in these cases. I drill through the gold crown a little hole about on the line where you would suppose the top of the crown had been attached to the band, on the line of union between the crown and the band, along the buccal surface. Drill that hole into the cement as far as you can conveniently do so. Follow with a round bur, enlarging it without cutting out much of the cement. I get the hole large enough to pass into it a good solid instrument, usually one of the heavy straight pluggers. That is pushed into the hole until it fits snugly; then I have a lever with which to force the crown up. Ordinarily the crown can be tipped off. If it is tight there will probably need to be some up and down movement until it comes off.

Correct Method
of
Taking the Bite.

Another practical point I thought I would speak about, is the method we have in our office of making artificial teeth so as to do away with the necessity of "trying in." Why should you try in a set of teeth? If you try a set of teeth in the mouth before completing them, you admit you have no faith in your bite. If your bite, your articulated model, is absolutely the same on your plaster cast as in the mouth, the teeth will fit in the mouth the same as on the cast; consequently all that is necessary in order to do away with the visit where you try in the teeth, is to be certain to have the bite accurate. Is it not better to have the bite accurate rather than be obliged to displace teeth after they are set up, or do additional grinding after they are made? Why does any one of us have a lack of faith in the articulation? I think it is because we have a lack of faith in the bite of the patient. We do not feel certain the patient bites when we ask him to do so, as he would at other times. Why is that? The lower jaw bites normally in its comfortable backward position, but there is another bite which we will call the "in-

cisive bite." If the patient desires to bite off a piece of bread, for instance, he moves his jaw so that the incisors come forward. It is natural for a patient to do that. If you set up the teeth by that bite, they will be wrong. How can you avoid that? In the first place, all that is necessary is not say to the patient "Bite." Simply say: "Close the mouth." But he must not have anything to bite. Years ago when I commenced to work with Dr. Kingsley, I started to make an appointment with a patient to try in a set of teeth. He asked: "What for?" and I said; "To see that the teeth are set up right." He asked: "Is not the bite right?" I said: "I think so," but he said "That is not enough; you must know so." So this is what I have learned from association with him. You have some teeth in occlusion, and you are going to make a partial set. There is that natural disposition to move the lower jaw forward. If you are going to make a plate out of gold, you will make your gold plate first, and on the region where you wish the bite to come, you use some of the modeling compound—in the region of the missing teeth; the patient is asked to close his mouth, and of course he strikes this modeling compound; then with a sharp knife you cut it away, and you keep on doing that until every tooth of the lower jaw strikes the modeling compound at the same moment, but does not bite into it. You have a plane of it against which all of the lower teeth exactly antagonize. You can see all of these teeth, consequently you can see whether the lower jaw is in a forward or backward position. Having obtained this biting plate on which he strikes evenly, a little soft wax is flowed over the top of it about the thickness of blotting paper, and is held over the flame, and the patient allowed to close again. He does so, and closes through the wax. Your teeth are still in view; they are not covered. It is only the thickness of blotting paper the patient is biting on, and you can be absolutely certain of where he bites. That is taken out again, and this impression of the cusps of the teeth examined, and the probability will be that only the longest cusps will strike through; you then add another layer of wax, and the patient closes again, and so on, until eventually you have a perfect impression of the *occluding surfaces* of all of the antagonizing teeth, the labial surfaces being at all times in view.

You have now an impression of the occluding surfaces with which you really want to antagonize. This piece is put in the mouth cold, and the patient closes into this impression, and the mouth is kept closed; then a roll of soft wax is placed in the mouth and pressed against the labial surfaces of the teeth of both jaws, as you require. Your models from that will give you a perfect representation of the occluding surfaces and a perfect representation of the labial surface. One will guide you in setting up the teeth to bite, and the other in setting your teeth for æsthetic

purposes. The palatal surfaces are usually of no value, but if required a separate model of the lower teeth could be made and set in the bite when articulating. When you set the teeth up in this way they ought to fit perfectly. If they do not, something has gone wrong. It may be in the flask, or if a gold plate a change may occur in soldering. In the fifteen years I have been with Dr. Kingsley I have never known of such a thing as to try in a set of teeth, and that is sufficient evidence that it can be done.

For a full denture on rubber I like the following procedure: Take an impression of the mouth, and make a thin rubber plate and vulcanize it—black rubber preferably. When the patient comes in next time we have a black rubber plate that fits the mouth, and on that we build up, first roughening it for the attachment of the second rubber. A clean line is cut around as the limitations of the pink rubber. Add to that modeling compound, and you have this advantage—a nice, comfortable plate to try in the mouth, instead of a big lump of wax, and you not only get your bite, but you may trim that modeling compound to get exactly the fullness you desire, and that modeling compound is not taken off the plate, but goes into the flask. You trim it to just the shape you want, minus the teeth. When you put it on the articulator, you take away just enough for placing the teeth, and you have the restoration of the lip contour that you wish. We usually take the wax off, and pink rubber attaches the teeth to the black plate. You have the satisfaction of knowing whether your method of adhesion is going to work. If the black rubber plate has a suction to it, without any teeth, you can feel assured that it will stay up when the teeth are added.

With reference to not trying in plates, if a bite
Dr. Turner. were accurate as far as the mechanical arrangement of the teeth goes, the teeth would be accurate, but they might not look well in the mouth. Sometimes we can get the teeth mechanically perfect, and yet when in the mouth, they will look far from well. We can make slight changes that often improve their appearance very much.

I would like to bring up the pathological side.
Dr. Russell. About a year ago last June I made a full upper plate for a patient, and a lower plate of rubber. In November she went to Cuba, where she ate a great deal of fruit, and her mouth became very sore. When she returned in the spring, she had no further trouble. This winter she came to me with a sore tongue. The lingual glands looked like a case of carcinoma. Her secretions were very acid. She had acid urine, and her sweat was acid, so I figured out that she had a first class battery in her mouth. In the summer time she

perspired and got rid of the acid in that way, but in the winter, the glands were closed and she had this condition. I put in a gold plate and she had no further trouble.

That brings up a case that was sent to me last week for diagnosis, of a man who had in his mouth bridgework extending from the canines on each side to the molars. He has had that in nearly a year. He has had a sore tongue on one side, and complains of excruciating pains running through his tongue to his head. I examined it carefully, and cannot find out anything except that it is sore on one side. I got his family history, and examined it carefully, and find no evidence of cancer, and yet his symptoms point that way. His back teeth come together so that the lower tooth projects against the side of his tongue. His secretions are also very acid. The color of the gold is very dark, and I think the alloy is very much abased. Perhaps the acid has acted on the copper. If any one can give me any hint on the subject I would be very glad to hear his opinion.

We often hear of the use of gold crowns where
Dr. Turner. they should not be used. A case came into my office a week ago that was so very bad I took a model of it and thought I would like to bring it before the Society. The patient is a young lady, a nice-looking girl, and she had a gold crown on the left superior cuspid; not only was it such a bad position to put a gold crown in, but it was such a horrible looking crown that I took an impression to show to you. The crown is very much longer than it should be and very badly fitting at the neck, so much so that I took it off. Strange to say, I found under it a very good tooth that could be readily filled, and improve the appearance of her mouth one hundred per cent.

Central Dental Society of Northern New Jersey.

Discussion of Dr. Dawbarn's Paper.

I did not come prepared to speak upon this
Dr. Bogue. subject, but I will venture to express, in the first place, my pleasure at hearing the paper, and in the second place gratification at the fact that Dr. Dawbarn is able to differentiate the appearance of decay in connection with the antrum, distinguishing between dental decay as the cause and effect.

Before we can have an abscess at the end of a root, we must, in ordinary cases, have dead pulp; that may cause empyema, but I cannot see that empyema occurring from other causes would produce an abscessed tooth, unless the pulp had been destroyed.*

I am pleased to see that the essayist advocates the perforation of the antrum where it can be got at with comparative ease, underneath the lip, and not through the alveolus.

A good many years ago I was very sharply criticised for declining to extract teeth in my treatment of a diseased antrum, but my answer was that the tooth could be extracted later on, if my operation failed, whereas if I had extracted the tooth and then failed, the patient would have been the loser.

I do not feel qualified to discuss a paper of this character further than to comment on these one or two points.

It has given me a great deal of pleasure to
Dr. Euckey. listen to Dr. Dawbarn tonight, and his lucid and practical illustration and demonstration of the most interesting cavities of the superior maxillary. It is not new, still it is fresh.

I do not know that in practical dental work the antrum is a matter of such supreme importance to us as it is sometimes supposed, and claimed, to be, by some writers. So far as my experience goes it has not proven a very great source of annoyance or trouble. In my practice I have found very few cases of antrum trouble of any sort. One thing in the paper which particularly interested me was the opinion of two eminent surgeons which were so diametrically opposed to each other. I could only come to the conclusion that their opinions were based entirely upon their own viewpoint; the one gentleman had never seen a case of empyema due to dental troubles or teeth diseased at the roots, and the other gentleman had practically never seen any antrum troubles but those due to such causes.

So far as my own experience and observation goes—perhaps it may be due to early education and training—it has seemed to me that most of the cases of antrum trouble that come to us are entirely due to the presence of diseased teeth or roots. This may be wrong, but that has been my impression. The cases that have come under my observation have been attributed to that and the removal of diseased teeth and roots, with subsequent treatment, has, in most cases, proven sufficient for a cure.

Some twelve or fifteen years ago a young gentleman of probably twenty-five years of age applied to me for relief from a very aggravated

*See description of pericemental abscess in Editor's Corner for June.—Eu.

and prominent swelling over his right superior maxilla, right in the point of the cheek, which caused him a good deal of annoyance and trouble. There was a fulness of the roof of the mouth. His teeth were very largely filled, principally with gold fillings, upon all their surfaces. I found upon percussion and by other tests that the first molar was the one that I might more easily place under suspicion; it seemed to be soft and a little bit loose, and I diagnosed a pulpless tooth. On questioning him I found that tooth had been opened and treated by a dentist who had previously filled his teeth. I proposed an extraction at once as the shortest and quickest way to reach the seat of the trouble, which I did, and found a profuse discharge. I saw that case two or three times a week for probably two or three months. With the use of antiseptic washes—at that time we were using more than any other, for antrum troubles particularly, the bichloride solutions—and with dressings—we did not go into the packing of the antrum as the doctor has described tonight with gauze packing—and keeping the opening free, we succeeded in the course of weeks in reducing all of the swelling and all of the pain. The opening never closed; the opening probably never will close. I saw the gentleman some two years ago and the opening was still there, although very much reduced and a peculiar sound, as of escaping air could be obtained at any time by pressure upon the cheek or upon the roof of the mouth, which might be amusing to himself and friends, on occasions, but which was to me an indication that the results which we desired had not been entirely obtained.

Necrosis, I think, in these cases is due to the irritation caused by the presence of diseased teeth and roots. As I have said before, in my experience I have found little of it, and I think that we as dentists need fear little, and if we do find these cases, these surgical cases, coming under our observation and applying to us for relief, I believe that prudence and the best interest of the patient should dictate to us the reference of these cases to the surgical operator, the specialist in oral surgery. I do not believe that financially nor professionally it would be or is profitable to us to follow out these cases that only periodically or semi-occasionally apply to us for relief, and that we should turn them over, as we do other things, to the specialists.

I would like to ask Dr. Dawbarn, in this case
Dr. Barlow. that Dr. Luckey speaks of where the opening still continues, if there was no trace of disease there, whether or not that opening would not have closed up entirely.

In all probability; and I should also suppose
Dr. Dawbarn. that if the bone had not become quite seriously diseased as the consequence of prolonged continuance

of the trouble, pressure ought not to be able to spring the antrum sufficiently to cause a rush of air so as to make a noise. Evidently that condition must have been abnormally soft, and while that was not necessarily due to malignant disease, it was indicative of a certain amount of bony involvement of one kind or another, probably tubercular.

I only want to add in regard to this question
Dr. Luckey. that Dr. Barlow has raised, that if my memory serves me right, Dr. Garretson, in his work on surgery, makes mention of the fact that these openings in the antrum rarely or never close up; that you may almost invariably expect them to remain open.

Dr. Dawbarn. May I inquire whether Dr. Garretson, at that time, advocated the method of going up through the alvéolus?

Dr. Luckey. As I remember, he did.

Dr. Dawbarn. I should think that would be more likely to be followed by lack of closure, because in the act of chewing, there is a tendency to force food up into the antrum through the perforation and that would act as a cause of irritation and therefore keep the opening patent.

I do not regard it as very important whether the opening be closed or not, provided it is made at the extreme upper angle of the bone of the cheek, because there, in ordinary mastication, and with no tube in at all, when the opening has closed as much as it generally does, there will be no food enter.

I have of late made it a point to have my openings rather larger than I once did. If the trouble is becoming chronic in its nature, in order to make a thorough examination of the interior, I make an opening into which I can introduce my little finger. In the course of time that will close very greatly; occasionally I have had them entirely closed, but in the majority of cases I do not think they quite close, although I have seen no cause to regret it, nor have I seen springy walls or evidences of decalcification such as would indicate that the trouble was still going on in the antrum.

Dr. C. E. C. Smith. I had a case of that kind some three years ago and I treated it with iodoform gauze, putting a small piece in at every dressing. The opening did not close and I concluded it was due to the fact of packing the gauze in and I thought that if I had treated it with washes instead of using the gauze every day it might have closed.

Dr. Dawbarn. As far as my experience goes I see no reason to think that packing with gauze should have a

greater tendency to keep the opening permanently patent, than the other method.

There is no trouble whatever in closing one of these openings, if you wish to; it is only a matter of dissecting the mucous membrane for little distances, until the edges can be made to overlap and then sewing them. You can do it in ten minutes, under cocaine.

In the first place I desire to congratulate you
Dr. Joseph Head. sincerely upon the very interesting paper that we have listened to.

I was very much interested in Dr. Luckey's statement about his patient and especially when he spoke of my old perceptor, Dr. Garretson. Dr. Garretson always suggested the advisability of going up through the sockets of certain teeth when antrum trouble was even suspected. But Dr. Luckey's assertion that the antrums never closed up, because Dr. Garretson said they never did, reminded me very much of a certain scientist who once said that it was impossible that a steam locomotive could ever be of any very great assistance, because he had carefully figured out that if human beings went at the rate of fifteen miles an hour, their breath would be taken from them. (Laughter.) The interesting fact remains, however much I may honor Dr. Garretson, and I take off my hat to his ghost at this moment, that many of us have closed up these openings, and while we all admire Dr. Garretson very much, the fact that we have closed them must be taken as superior proof to such an authority, high as he undoubtedly was.

I was also much interested in the simple diagnosis that was suggested this evening of a malignant state of affairs. Every simple test that can be given to dentists or professional men is of the utmost importance, and the tests of the softening of the bone and the softening of the ends of the roots should be carefully treasured up by us and should be especially told to the extractors of teeth, because in many instances it could be made the means of early diagnosis. It is something which cannot be dwelt on too strenuously, nor too much importance attached to it and hereafter whenever any unusual swelling occurs and I feel I cannot exactly tell what is the matter, it will always be one of my diagnostic tests to cocoanize the roof of the mouth and puncture it with a sharp instrument.

I think Dr. Head has hit upon a very important
Dr. Bogue. point. Furthermore, it comes to my mind again that Dr. Dawbarn spoke of various influences that might cause antrum trouble. He said that if we caught cold we might have such trouble. I have seen cases where four or five teeth on one side were extremely sore and where extraction was suggested, but the

trouble proved to be in the antrum and passed away within a week. In another case the antrum was opened and there was a discharge of purulent matter which passed away inside of a week. Such cases were alluded to by Dr. Dawbarn and it would be well to bear them in mind.

Still another point which Dr. Head did not allude to, although I know he thought of it, and that is whenever we as dentists find in or around the mouth conditions which are not normal, it is time for us to protect our patients and then if we make experimental punctures we shall be doing our duty to our patients.

I have listened with a great deal of pleasure to **Dr. Chas. H. Meeker.** Dr. Dawbarn's paper and have been very happy to feel that he was willing to come out here and give us this paper, and I am sorry there are not more of our members present to hear it.

I think all dentists who have been in practice any number of years have had cases of antrum troubles and have probably been successful with them, but I believe with Dr. Luckey that the proper thing to do is to refer such cases to a specialist. I know whereof I speak with regard to Dr. Dawbarn, because I have witnessed two cases where he has done this work, one being my own patient, and I certainly felt very grateful for what was done. I know I never could have gotten through it with the ease which he has.

I am very glad to thank Dr. Dawbarn personally **Dr. E. C. Leroy.** for the second pleasure I have experienced of this kind. The first was at a clinic given to the members of the Odontological Society last month, at which the doctor demonstrated many of these cases which he speaks of, and particularly the operations upon the antrum. Those members of the New Jersey Society who received invitations to the Odontological meeting and were not present, lost a great deal.

Some few years ago a patient was presented to me who had suffered from antrum trouble. The patient told me that her physician had diagnosed a peculiar condition, that she had double vision and had been sent abroad after undergoing treatment here for some year or two and while abroad had been treated by a surgeon for this condition which existed, and no relief came from it. She returned home crestfallen and thought her sight was destroyed forever in that eye; it was continually getting worse. She appealed to her dentist again, who recognized at that time that there was possibly trouble in the antrum. I am sorry to say that he did not perform the operation indicated by Dr. Dawbarn of entering the antrum above the alveolar process, but a tooth was sacrificed. However, the trouble was relieved almost immediately, the condition cured, and in that case the antrum healed up.

The Creator has almost invariably instituted the foramina from sinuses in the most economical place, but is not the antral foramen at the upper portion of the cavity the only instance where such exists much above the floor of cavity?

The most striking example which occurs to me
Dr. Dawbarn. is in reference to the air sinuses about the skull, and the one more prominently involved in the disease that we have discussed tonight. I refer to mastoid disease. When you have an otitis media as the consequence of the swelling of the little eustachian tube that opens in the middle ear, nothing can pass through it, just as, when you have a cold in the head, you cannot breathe through the nose, and so, very much more quickly, this little tube becomes obstructed from the swelling of the mucous membrane and then nothing can pass out of the middle ear or into it, and presently pus forms in the middle ear; the capacity of this cavity is extremely limited, and when it has become filled with fluid, there is only one place for the pus to go, and that is to overflow into the mastoid cells and the opening of the cells into the middle ear is at the junction of the roof and rear walls. The first of these cells of the mastoid is called the antrum of the mastoid, and others open irregularly into it, sometimes a dozen of them, and the pus trickles down through those cells, and if it has once made its exit from the middle ear into the mastoid there is no chance of recovery excepting through surgery, because even if you opened through the ear drum, you would not wash out the mastoid cells. The only thing to do is to cut down, make what is known as Wilde's incision, named from the father of Oscar Wilde, which exposes the bone, which is behind, and then drill through into the mastoid cells, when they can be cleaned out, and if that is done promptly, you can practically save all your cases. If it is done with a lesser degree of promptness, there is very apt to be a failure through many causes.

That was the trouble with the late Roscoe Conklin, when he was exposed to the blizzard of 1888, the diagnosis of the real nature of his earache was not made by his doctor, and two days after he became delirious; then the pus was let out, but it was too late.



Dental Education.

At a meeting held in Chicago, at the Palmer House, on April 30th, 1900, the subject of Dental Education was discussed. The following gentlemen were present at the meeting: Dr. Eugene S. Talbot, presiding; Dr. Henry W. Rogers, Dr. Theodore Menges, Dr. A. E. Baldwin, Dr. J. N. Crouse, Dr. John S. Marshall, Dr. W. A. Evans, Dr. G. V. I. Brown, of Milwaukee; Dr. C. C. Chittenden, of Madison, Wis.; and Dr. Jonathan Taft, of Ann Arbor, Mich.

Dr. Talbot addressed the meeting as follows:

There never was a period in the history of this country when the subject of education has occupied the minds of teachers and thinkers as it does today. The university is growing in popularity. The standard of education is being raised yearly. To meet these requirements, public and preparatory schools are re-arranging their methods of teaching so that the student may select his vocation in life and study to that end with a minimum loss of time.

The demands upon the medical profession have increased rapidly. Medical teaching is being revolutionized, broadened and higher standards are demanded of the graduate. Entrance requirements are more exacting. A longer course of study is required. Medical teaching is along broader lines. The profession generally is being placed upon a high scientific basis. With the excessive activity now in progress in all schools of learning, dentists must choose whether they will remain tradesmen (as dentistry is now taught and practiced) or whether they will throw off the yoke which has kept them under for the last six decades and take a stand with the medical profession, upon broad scientific principles. Dental mechanisms have nearly reached their limitations. The future is bound to see a revolution in methods of training. The old has had its day.

We have come together this evening in an informal way to discuss the subject of Dental Education. We represent the university, the medical college, the dental college, the medical and dental college combined, stomatology taught in medical colleges and the State Board of Dental Examiners. All departments and methods of teaching are here represented. All are directly interested if not teachers. Each one has his particular ideas as to the future of Dentistry. How the student of the future is to be educated. The views which I have held for more than two

decades are those expressed by Prof. N. S. Davis, Sr., forty years ago. Dr. Davis has been a lifelong friend to dentistry. I call upon him to open the discussion.

The following letter was read by Dr. John S. Marshall:

To Dr. Eugene S. Talbot:

Dear Sir:—Your kind invitation to attend an informal dinner at the Palmer House, April 30th, 6:30 p. m., to participate in the discussion of the subject of "Dental Education" is received and duly considered. The subject you propose for discussion has occupied my attention more or less for many years.

**Dentistry
as a Specialty
of Medicine.**

That Dental and Oral Surgery is simply a department of the general field of medicine and surgery, as truly as Ophthalmology, Gynecology or any other recognized specialty, is too plain to need argument or illustration. Assuming this to be true, it at once becomes evident that a proper dental education is no more nor less than a full medical education and graduation as members of the medical profession followed by sufficient post-graduate work in dental dispensaries to give the necessary skill in mechanical manipulations. This would only require a Professor of Dental Pathology and Therapeutics in each Medical College Faculty and dental assistants or instructors in the hospitals and dispensaries. Such a system of education would not only restore the practitioner of dentistry to his proper place as a member of the medical profession on the same plane as practitioners of Gynecology, Ophthalmology, etc., but it would also benefit students in all the other departments of medicine. It would dispense with the building and support of separate Dental Colleges and Faculties, and also do away with the anomalous spectacle of a quasi profession consisting of only a limited department of a true profession to which it legitimately belongs. The chief obstacles in the way of adopting the methods of dental education indicated above are first, the preoccupation of the field by a variety of dental colleges, all or nearly all on a narrower basis of requirements and in which are centered more or less of the money and reputations of many influential members of that profession; and second, the commercial spirit of the age that is constantly urging the young of both sexes into all professions in the shortest time and with the least expenditure of money.

If the leading universities having medical and dental schools attached, could be induced to make a concerted movement in the direction indicated, they would be reasonably sure of success; and the separate colleges would soon be compelled to follow their example.

The general medical profession has already opened the way by

organizing Sections of Dental and Oral Surgery in the American Dental Association and in all the more recent International Medical Congresses.

If I were to take part in your proposed dinner, I do not think I could add anything of value to what I have written above and as the approach of every evening brings a sense of weariness, I must ask you to accept this instead of my bodily presence with you on the evening of the 30th inst.

Wishing you a pleasant and profitable evening discussion, I remain,
yours truly, N. S. DAVIS.

I am sorry that I can not agree with the learned
Dr. Theodore Menges. Dr. Davis, in fact I fear that I shall not agree with many present here this evening. Neither can I agree with the preliminary remarks made by our friend, Dr. Talbot.

Dental Technique has not yet had its day. It is scarcely
Technics. yet born. The surface has scarcely been scratched. The question is, of course, what do we understand by technique. If we understand by technics the study of the tooth that we may understand its anatomy, its soft parts—if we understand that it is a demonstration or a development of the likeness of the natural tooth from a solid piece of ivory—the teaching of how to grasp an instrument, how to hold it and direct it; if we understand by operative technics the formation of a cavity along scientific lines, why cavities should be thus prepared and not otherwise; if we understand by technics the manipulation, handling, the treatment of teeth, filling of root canals and the like, then I want to say to you, gentlemen, that the colleges in this country, and I have recently visited a number in the East, are today most sadly deficient in technics. I happen to represent an institution of which I am justly proud. In the infirmary of that institution we have from fifteen to sixteen demonstrators, many of whom have been there from four to five years, so that they are not novices in instructing students in operative procedures. They tell us that in our institution they prefer the freshman student, prefer to direct him in his work, because he goes at it so much more intelligently than do the seniors of any other school they have met because when they give this student the necessary instruction for doing his work, he understands what is wanted and he goes about it intelligently, he accomplishes the result. I want to say to you, without boasting, that there are no two schools in America today that will do the work, that will accomplish one-half the working technics that we do today, and we have not yet accomplished what we want to and will accomplish. So much for that part of the question.

**Education
as Medical Specialists
Impractical.**

As to the suggestion offered by Dr. Davis, the proposition is impractical. Let the dental schools, or a number of them, attempt the work as outlined by Dr. Davis and absolute failure must undoubtedly result. Why is it impractical? Because you can not in a medical college give the instruction that is necessary to fit a man for the practice of dentistry. Take the first year, for instance, the physiology, histology, chemistry and kindred subjects, partly pursued in the dental college are identically the same as in the medical college. So far the gentleman is right, but much more should be done in a dental college after this. These are simply fundamental branches. Unfortunately we now have a three years' course; we should have the four years' course, and even then the question of technics, the training of the hand and the eye, is the paramount necessity in dentistry. His comparison is unfair, as there is a vast difference between the dentist and the aurist and the oculist. There is no comparison between them at all. More than one-half of the principal duties of the dentist are mechanical. There is no doubt about it and we cannot rub that fact out. That is not true of the aurist and the oculist. Give the dentist the same mental drill in the fundamental branches as these men receive and you have not the time for that more important part of the dentist's education. It would not only be unfair but it would not be a wise expenditure of his time to devote his hours to the same work as the aurist and the oculist must.

Let us consider for a minute the second year. There is not a man who understands education in medical schools today who can get up and defend the physician and say that the medical man should take the same course in chemistry in the second year as the dental man should take. The medical man would not be justified in putting the same amount of time on the metals and their combinations as the dentist must, if he would be an intelligent dentist. The dental colleges that give their entire instruction in chemistry and histology to the dentist and the medical man alike are not accomplishing sound work in dental education. It is impossible because the medical man can not and will not spend the time on the scientific investigation of alloys, of cements, or dental rubbers and of the various metallic combinations of which the dentist must have a thorough knowledge. Neither would the dentist be justified in studying toxicology the same as the medical man does. When we go outside of the mere fundamental lines there must be an absolute diversion and the institutions that attempt to move along the same lines will find themselves lacking and their men at the end of the course will be lame.

I will make this proposition: There is not a medical student in America today who can pass an examination with the juniors of the Northwestern

Dental School in dental metallurgy. I will challenge the best medical school in the world to try to pass an examination with a junior student of the Northwestern Dental School on the peridental membranes and the tissues around the teeth. They can not do it as they can not spend the time on this subject to the detriment of other more important subjects.

The proposition is, therefore, impractical, and it can not be successfully carried out. In the subject of physiology the medical and the dental student should be educated exactly alike. Their work runs absolutely in the same channel. When we come to anatomy the dental student is not justified in putting the same amount of time on the anatomy of the lower extremity, upon the abdominal cavity that the medical student must. The dental student, on the other hand, must have a better knowledge of the human body from the clavicle up than it is possible for the medical student to acquire. Hence, along these lines I say it is not practical and the institution attempting it will absolutely and utterly fail in accomplishing the desired result.

I must confess that I know very little about the subject of dental education. I presume that my invitation to be present with you this evening is due to an expression of some views along the lines of this subject that I gave utterance to a few weeks ago in the presence of some of the gentlemen present. I, therefore, will talk along somewhat the same line. As I understand it the meeting is intended to be entirely informal. The object is to stimulate thought to the end that there may be not only improvement in the ends toward which we strive, but that there may be improvement in the means we undertake in order to bring about these ends. I yield to no one in my admiration for Dr. Davis. At the same time, I think we must all admit that by reason of Dr. Davis's years and by reason of the school that he has been reared in, that he approaches a question from the standpoint that does not seem to be the best for us. The doctor comes of the day that is past, but he has kept abreast of the times as no man living and of his years has done. We all know, however, that it is absolutely impossible for anyone to keep thoroughly abreast of the times during all the years of his life.

The matter of specialism is not only rampant but it is thoroughly justified. Specialism simply means that the man who undertakes to do a certain line of work is better qualified for the work that he undertakes to do than is the man or institution that undertakes to do a general line of work. I do not think that the ideas that have been offered by Dr. Davis are at all practical; I do not believe that Dr. Davis would stand for the details that he has there given utterance to. I believe, that the idea that he had as a central idea was that the dentist should be a better man, a

broader man, than he is; that the dentist should regard himself and should have the community regard him, as a specialist in medicine.

The time has been quite recently when the demand in the smaller towns throughout the country was for a dentist, not necessarily for a good dentist. The community required dental help. There were large stretches of country without a dentist and there was, therefore, a call for a dentist, no matter how good or poor he was. There was a reward for a man who knew dentistry better than the average citizen in the town. That time has passed. There is no community now that has not a dentist. And the reward now is not for a dentist, but a good dentist, and it is necessary for us, therefore, to think seriously as to what are the best methods for getting a good dentist. If I were to take any exception to what Dr. Menges has stated, I think it would be along the line that the doctor has conceived.

**Object
of Education.**

It is along the line that the education means to teach a man a certain group of facts or to do a certain particular thing. It seems to me that the object of education is to train a man's mind and a man's

hand in such a way that the evolution of the years and with the gaining of experience that man may continue to develop, continue to use that mind to better advantage, continue to use that hand to better and better and still better advantage. It is my opinion as a result of observation of the medical and of the dental profession, that the dentist, as he is turned out of school, is infinitely a better man for the business that comes to his hand than is the medical man. I believe, that the young men who graduated from the dental school this Spring, are better prepared to give conscientious and adequate care to the patients who come to them than are the medical men who have been turned out of the college this Spring. There is no question whatever that the dentist as graduated is a better artist, understands the art of dentistry better, and far better, than does the medical man who is turned out understand the art of medicine. It seems to me that the shortcoming of dental education is along this line. You equip your man largely to do the work that he gets to do tomorrow, and this week and this year, but you do not lay enough stress upon that mental training which will make that man a better dentist, a better man, a better practitioner of dentistry and a man with a better comprehension of the principles of dentistry at the end of fifteen years than he has today. I do not believe that you put enough time upon building up for the future dental man. If I might be specific and somewhat technical, I do not believe that you lay enough of a foundation as to the principles of things. For instance, I do not believe that you lay down enough of a foundation in chemistry, in bacteriology, and in pathology, and if there is short-

coming in the methods of teaching in your school it is rather along these lines.

I do not think that I would have come down
Dr. J. N. Crouse. to this meeting if I had known that I had to make a speech as I have sworn off speaking on the subject of education. Right here in this building a prominent educator said a few months ago that I knew the least about dental education of any man he knew. I thought I would study it over and see if he is correct. I take the position I have always taken, that the practice of dentistry requires a great deal more ability than is generally believed. The practitioner of dentistry, if he does his duty, requires skill and judgment such as I know no other profession to demand. The medical profession cannot compare with it. I can go out and practice medicine successfully today, I mean in getting a practice and having the patients get well. We do not cure them because they get well themselves. There is that feature about medicine which is different from dentistry: In dentistry every move must be one of skill and dexterity; not so with medicine. Christian science succeeds right here in this city better than any medical man in it. Look at Dowie! He succeeds in getting people to think that the lame can walk, and the blind see and gets the money out of them. You practice medicine for the money you get out of it and the good you can do. The old scoundrel used to practice medicine, but the Board has gotten after him and now he practices through Jesus Christ. He is a Divine Healer. I listened to his tirade one Sunday and he got people to rise and tell what he had done for them. Men on crutches got up and said he had healed them. I do not know of any dentist who can fill teeth by Christian Science.

The trouble in all dental schools is that they
Proper Teachers cannot get teachers of ability. There are lots of
and men in the dental schools who can go out and practice
Demonstrators Required medicine. Talk about chemistry, it is a lifetime study; anatomy, is nearly a lifetime study. Take the men in the medical schools and they only get a smattering of it. I am convinced that one-half of the practitioners in medicine today cannot stand an examination in chemistry or anatomy because they cannot keep it up. They cannot remember all the different parts of the body except they be surgeons when they must keep up. I think if we could get the dental schools to that point where they would select nothing but the right kind of men, men who have ability, they would be better off. There are lots of men in schools who have not enough earnestness or integrity about them when they go out, and these men will never succeed. They get an idea that dentistry is a lucrative business and one

easily learned. They come from the barber shops, etc., and never learn anything. That is what ails dentistry today. I think the dental schools must all change their method of teaching. I am very glad to see schools that put in demonstrators enough to stand right over the boys, to teach the technique at the chair. As a rule, they do not have demonstrators enough in their clinic rooms. I know when I went to college we had one demonstrator for the whole class. We demonstrated to each other; taught what we could; asked questions. Every school ought to have demonstrators enough so that each demonstrator has no more than four or five students to take care of, and I think that would keep him busy. When the Chicago College was first organized, I helped to organize it. I sold my stock after the college had been running but a little while. I went down there for two afternoons to inspect the methods of teaching they were using and when I found how sadly deficient it was I felt that I was robbing the boys of their time and money. I decided not to be a party to such a burlesque.

I agree with Dr. Menges as to his facts but I
Dr. G. U. I. Brown. do not agree with his findings. There is no one who is a stronger believer in the value of training in technique, so-called, than I am and always have been. I have watched the progress of it with a good deal of interest and have always believed that that is the only way to lay the proper foundation for a successful operator. The student must train the hand and the eye, and if you do not make it easy for him to do so, he must do it after he gets into practice, as did those of us who had no training. I agree also with his statement that nothing should be neglected which is valuable to the dentist and as bearing more directly on the things which he must do from day to day than on things which are perhaps a matter of speculation. Whether he will need them or not would certainly be a mistake to think about, but I think no one would undertake to say that a man is a poorer man of any kind because he knows something more than is needed. If a man can be taught all of these things which we agree should be taught and he learns them well, I believe that he is to be encouraged to go on and take up things which perhaps make him a more cultured man; they would certainly develop his mind and would make him a professional man in a better sense. That I believe is the ideal course.

Following an idea of my own and one which also came to me through Dr. Taft, I have for several years past pursued a course in the school with which I am connected, which keeps men constantly at work for eleven months of the year. They take the technical course just the same as every other dental student does. We follow, as nearly as possible, the work that Dr. Black and Dr. Herbert are doing. We have

been using Black's Dental Anatomy and we devote all the time to doing our work that is needed to do it. I require of my students, when making their ivory teeth, to cut them without the aid of any measurements so that the eye will be trained in such a manner that after the ivory teeth are finished they will not vary a fraction of a millimeter from the exact measurement. I do not suppose that anything can be considered more accurate than that. Our regular dental students make just such differences as Dr. Menges suggested. They are not required to know the anatomy of the extremities as exactly as the strictly medical man. They are required to know the head and neck better and more accurately than is any medical student. These men, by reason of the additional time they put in, are able to do all the technical work; they are able to get much more training in the dental infirmary; they do three or four times as much practical work as it is possible for the average dental student to do in the regular term. Besides that they go on and take a full medical course and medical examination. Now, I fail to see why these men are not going to be better dentists by reason of that training. The most satisfactory men we have today are the ones who are taking that course. If there is any hope for us at all those are the men to whom we must look.

If at any time a question of doubt should arise

Medical Course with Dental Training.	as to whether it is possible for men to take both the dental and medical course, and still be good operators, I should like to call on those men to take part in any sort of contest to see whether they can fill teeth and make plates as well as the man who did not know so much about medicine. They can do better work and they are better men in every way. They have a better and higher idea of dental training which makes them better members of the profession. I think that that is an ideal course. It resolves itself merely into a question of time and the ability of the student. It is not the average student to whom we can give such an extensive course as that, but you can individualize. I admit, of course, that mine is a limited field because of that. We have in our school something less than one hundred and fifty students and during the summer months there are not more than fifteen or twenty. The demonstrators and myself stand over and work with these men until they can do better work than we can in filling teeth. I give you that as one example of what has been done, of what can be done, and of what is being done and done successfully. It is a practical thing and not a theory.
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Do you give the medical and the dental course
 at the same time?

Dr. Menges.

Dr. Brown. Oh, no! They go right straight along during the winter term, taking their regular dental work and their full medical studies. They cannot, of course, put in so much time in the infirmary, but they continue their work for eleven months in the year, taking a four years' course, three years of the dental and one year straight medical, giving them one additional year for dentistry. They have an equivalent of seven six-month courses.

Dr. Menges. Do you do that where students attend the sessions only where medical and dental lectures are given?

Dr. Brown. No, that could not be done. If they take the one course only they have as much as they can do in the dental work, but when you can induce men to take eleven months I think you can accomplish something. I would also be in favor of giving two degrees when work is done in that way.

Dr. Menges. If you were to confine this additional time which is required of the medical student, if you were to devote that time to literature, art, and science, absolutely independent of the medical profession, would you not create a broader foundation for the dental student?

Dr. Brown. I think not, because that would narrow my field. I give him a broader foundation and I know that he will then have the desire to read and follow the literature. We are essentially concerned in teaching matters, as I understand it, in directing them so that they will get the greatest possible development.

Dr. Crouse. Do you oblige them to take this eleven months' course?

Dr. Brown. Oh, no, it is entirely optional.

Dr. Crouse. What per cent of the students can you persuade to take this course?

Dr. Brown. A very small one only. The opposition to that work, the difficulty in getting men to take it, comes from the dental profession and not from the medical. It is the talk given them by the dentists that persuades them that they do not need so much pathology and bacteriology. The dentist tells them that they are wasting their time in becoming too theoretical.

I do not believe that a man should take a medical degree and then take a little work on top of that and become a dentist as he needs the necessary training right from the start of his career. Within a year we will be able to do something in that line. The suggestion I am now

making will be so altered that with an additional year of dentistry we can exact more from the student.

Dr. Crouse. If all the schools join in you could make it obligatory for students to take such a course.

Dr. Brown. I fear that that cannot be done as the dentists are creating too much opposition. The dentist says, "You don't need all this, it is time wasted," and the students take their advice. I wish you could see the fillings that those men put in. I would like to have you know how quickly such men have been able to push themselves into a good lucrative practice simply because they were capable and got on in the world better than those who were merely dental students.

Dr. Menges. Is it not a matter of fact that those who pursue the additional course in medicine are the better grade of students?

Dr. Brown. Certainly they are. As I said before it is not applicable to the average student. You cannot pick out the men promiscuously.

Dr. Crouse. It would be evident then that the men who take that course would be the better men, those who practice intelligent dentistry when they get out of college.

Dr. Brown. I have only offered this suggestion tonight as a foundation upon which we might build when we have this additional year to work in.

Dr. John S. Marshall. Dr. Crouse referred to the organization of the Chicago Dental College. When that institution was organized it was known as the Chicago Dental Infirmary, and the object and plan of that institution was to admit no one except men who had already received a medical degree. They were expected to devote two years' time to working in those branches which were considered purely dental, as for instance, dental pathology, dental chemistry, including metallurgy, dental histology, prosthetic work, and operative work. It was expected that these men, coming with their preliminary qualifications in medicine, would make more than the average dentist. The institution operated on that plan for just two years, and I think the highest number of students was twenty-one during the first year, and seventeen during the second year. Because it did not draw a large number of students, and because it did not fill the pockets of the men who started it; the element who wanted to make money, they determined that it was not a success. It had been given only a two years' trial and the trial resulted in a failure. As a

consequence the institution was changed to an ordinary dental college. Now, gentlemen, I firmly believe that that was the right plan and the one that should have been maintained. If it had been maintained I believe that all the new schools that were connected with medical schools and universities, would have adopted that plan eventually. Dr. Davis had something to do with the suggestion of that plan, so did Dr. Allport, Dr. Talbot and Dr. Brophy, and I do not know how many others, because the thing was started before I came to Chicago. I was one of the first teachers at the college, occupying the chair of dental pathology.

**Science
as Necessary as
Technique.**

I agree with Dr. Menges in some things he has said and I do not agree with him in some others. I have observed in the best dental colleges in this country that the tendency is towards practical strength. That is an error. Our profession is considered a practical profession and the dental colleges of today are turning out magnificent jewelers, men who can do as fine a piece of gold work as it is possible for human skill to do. They are, however, lacking in certain of the fundamentals. Let me give you an illustration. A lady came to my office recently, a lady who knows as much about dentistry as a good many graduates in dentistry, having been associated with dentists for many years before she was married. She has a little boy now who is about ten years old. When he was about three months old, he had a very severe illness as a result of which the central incisors did not properly develop on the cutting edge. She took him to a young dentist, one who had just graduated and from one of our best schools at that, and asked him whether he thought it best to crown these teeth or whether it would be best to allow them to remain as they were. He advised her not to touch them as *the enamel was growing down nicely over the edge*. Our schools are spending too much time on how to make crowns, bridges and plates at the expense of the fundamental principles of dentistry. Now that woman has absolutely no confidence in that young man as she knew better than that herself. She knew enough about dentistry to know that enamel would not grow down.

Another illustration: I asked a young man a short time ago what he had been taught in school about the complications of first dentition and what its effects were on the child. I asked him what he would do if he was sent for to see a child that was teething and upon his arrival there he found that the child was also suffering from a diarrhoea. He said, "I would give that child about fifteen grains of chlorate of potassium." I asked him, "What for?" He answered, "To check the

diarrhoea." That man you see did not know the first principles of materia medica and yet he was a splendid gold operator. There lies one great fault, we are spending too much time entirely on technique at the expense of the other work. It is not that we are devoting too much actual time to technique, but we are neglecting the other, and that certainly should be corrected. If it cannot be done in any other way, let us lengthen the term. Make it nine, or ten, or eleven months, or let us add an additional year, but do not let us turn out men who know nothing about materia medica, pathology, or histology of the teeth. Let us see to it that the young men we turn out, and on whose diploma we put our names as vouchers for their proficiency, shall know something more than how to fill a tooth, how to put on a crown or how to make a plate.

Another point; why is it that the young men have so much trouble in treating pulpless teeth? Hardly a day passes but some young man comes down to my office seeking my advice or assistance in treating pulpless teeth. They do not know anything about it. They have not been taught the pathology of the teeth. If they would only treat those teeth just as the surgeon does the wound they would get along all right. Instead of doing that, however, they continue to punch in cotton day after day instead of allowing it to drain. These are the things that I want you to think about, and these are the things that must be thought about if we are going to turn out young men who are really qualified and of whom we can be proud. I think that Dr. Brown in doing the work as he has outlined it to us tonight, has taken a step further in advance than anything that has been done in the dental profession up to the present time. He deserves all credit and I congratulate him.

I did not expect to be called upon to say anything in this matter, as examiners, as a rule, are not supposed to say very much when asked questions. I have been very strongly impressed with what has been said here this evening, and the conviction has gained on me which has taken hold and has been the chief mover in all my work in dental examining, and that is the greater educational preparation of men beginning to study dentistry. The young men who did not get hold of the things Dr. Marshall spoke of, did not get hold of them simply because they did not see them. They were there but they could not assimilate them; they had not the educational preparation to derive the proper benefit from what they saw and heard. I agree with Dr. Menges in the fact that the dental profession is absolutely a thing by itself, a specialty that cannot be taught with a little additional finish of a short while at the end of a medical course.

I think this whole subject is one that has been grasped in part by every speaker. They are as far apart as they can be and they are not as near together as I wish they were, but I believe the fundamental principle of the whole question was mentioned by Dr. Evans. In our school life in various educational institutions there is not emphasis put upon the fact of acquiring knowledge, of how to learn and how to study. It was said by an educator, years ago, that a student had learned half of life's work when he had learned how to study. Working on the same principle when I was teaching in the public schools years ago, I invariably insisted on my scholars always answering all questions asked in their own language and not in that of the author. I wanted them to grasp the underlying ideas and not to become adepts in repeating, without learning, other people's ideas. Let them learn the principal underlying subject, then when they go out into the world they are in a fit condition to analyze any question presenting itself and to be prepared at all times to meet any emergency. I think we are missing a great deal.

With all kindness and in the spirit of friendship, I want to say that I think tonight, as well as the past, shows that our so-called profession, or specialty, does not have the same comprehensive grasp as does the medical profession. There is no such thing as a "dental" pathology. There is no such thing as a "specialist" pathology. There is a pathology and there is a histology, but there is only one of each for the whole human system. Tissues are modified by their uses and surroundings, but there is no special pathology or histology of any of them, I think that if we would pay more attention to the principles underlying the cause, rather than the remedying of that cause, we would have much broader men after they are out of school than we have now. For instance (pardon me for using this illustration, but it comes in so pat), whilst talking with a practitioner of this city, a man of good repute, about a certain case, he said, "I follow explicitly Dr. So-and-so's ideas," giving the name of a teacher of considerable promise in this city. That illustrates the idea I wish to get at. We should not follow the ideas of any one man; we should follow implicitly the truth as brought to us by every one, but not because some one in particular says so.

Dr. Menges emphasized the fact of the lack of metallurgy in the course of a medical school. I do not think that the doctor has a proper grasp of that question, because in a well qualified, well disciplined, and well arranged medical curriculum, the principles of chemistry are laid down in such a manner that every student, if he properly applies

himself, can work out metallurgic questions. In other words, I would say that we as a special profession, so-called, or specialists within a profession, are too prone to emphasize the importance of ideas attached to our own specialty, and are too apt to feel that it is an immense affair. I think, Dr. Menges does not have as well versed ideas of the practitioner of medicine as of the dentist, or he would not make such a statement. Much can be gained by discussing if you are *only* open to conviction. I do not mean to say that Dr. Menges is that kind of a man, but he is a little inclined that way. A man who is as firmly set in his convictions as he is, and then has charge of a dental school for many years, cannot help it because his work is immense and all on one line. He cannot take the time to investigate other lines as he has all that he can possibly do. I do not say this to disparage Dr. Menges, or any other man in his position, but I do believe that the doctor has not the breadth of grasp of the importance of a preliminary fundamental education and learning, for that which makes them students for the rest of their life.

We are face to face with a question of fact and not of theory. Our schools are filled up with men whom we must take as they are. I do not believe that we are trying to give them as much in the line of fundamental preparation as we are in the final preparation. I think Dr. Marshall's criticism is fair and will grow of importance to us.

Years ago in Rush Medical College, when the course was two years and the same work was gone over in each year, they used to emphasize the idea that everything depended upon what was the matter. Find out what is the matter, try to get at the cause; but you cannot get at the cause without getting at the fundamental underlying principles. You cannot get a thorough grasp of the question without understanding what is the matter. The great majority of our dental students practically cease to study as soon as they get their degrees and their diplomas. That is the natural conclusion judging from the methods of teaching. I believe that you will notice that much more in the dental student than you will in the medical student. What is the natural result? The natural result is that after graduating the medical student continues to grow and the dental student becomes dwarfed. He is just as big a man when he graduates as he ever will be, and oftentimes he is bigger. Our facilities today for getting knowledge are greater than they were twenty years ago, and the facilities then were better than they were when Dr. Crouse was a student. Don't you know that as the opportunities for getting better education increase, the will power and earnestness of the student are lessened in proportion. I think it is as true as can be, and my observa-

tion has been a pretty close one, that not many of the students who have graduated from dental colleges in this city or in other cities continue to study after they leave the college.

Dr. Crouse. Is it not true that the men who stop study are the men who never studied at all, who did not have the training?

Dr. Baldwin. That is exactly what I claim and that is exactly what I say our dental students should get and if they have not got it when they come in, keep them out or give it to them. Take either course of action and you will be able to graduate better men.

This is a subject of vast importance. It is a subject pertaining to our profession. What shall be done to make better equipped dentists? We understand and appreciate that there are many who are not thoroughly equipped. If we were to ask why this is so, there would be many answers, perhaps, or many ways in which the question might be answered. In the first place, as has been said by more than one tonight, there are many who undertake this work who are in a preliminary sense totally unqualified for it. I do not know a school in this country where that is not true. Then, should we not, in making a beginning for correction, see to it that the men who apply for instruction in our dental colleges are well prepared?

Importance of Preliminary Training. They should not only have a knowledge of the branches embraced in a preliminary training, but they should also have the ability to study. They should have love for the work they are about to undertake. They should know better than the large proportion of the proposed dental students what is needed in the preparation for this profession. A great many come in and ask questions like this: "Is not dentistry a pretty good trade to make a living at and to make money?" I presume other schools have had such questions put to them any number of times. When a student comes with questions of that kind he must surely have rather misguided ideas as to what is involved in the preparation for the study of dentistry. He must in addition to the proper preliminary training have a love for the profession and inability to concentrate his mind and thought on the given subject so that he will be able to develop and do thorough work.

If that has not been done in his preliminary work, it will never be done in his dental course. I do not care how much you labor and work, you may prepare a student to such attainments that he can properly drill out a cavity, fill gold into it and polish it up as fine as gold can be, and

after all he may scarcely have any of the requirements of a good dentist. To master merely the mechanical technique enabling him to do good work is an exceedingly small part of the attainments which he should have. He himself is to blame for that. The dentist whom he consults before coming to college is also to blame as he does not realize the importance of a preliminary education. Oftentimes he has not got it himself. Then, perhaps, the student sees his medical friend and asks his opinion. You all know what esteem the physicians in the past have had of dentists and their attainments. Many of them have taught heretofore that about all a dentist needs to know is how to extract a tooth, and how to fill one. This adviser may, therefore, be no better than the dental adviser. Then he comes to the college and says that he has been to the country school two or four years. He never went to high school and has only studied a few of the great "R's." Unfortunately, too many of our schools will twist the matter around, admitting the student in spite of these defective qualifications. The trouble lies there as well as with the defective qualifications. The trouble lies there as well as with the adviser. If the student has the necessary finances some of our schools, not all I know, but some will admit him no matter how inferior his qualifications may be. That is deplorable. There ought to be more discrimination in these matters.

Then again, it ought to be ascertained whether the student has a just appreciation of what he is going to do. If it is of a low grade he should better be sent away again. Many of these students are allowed to enter and they are an annoyance throughout the entire course. It seems to me that the time has come for our educational institutions to take a step in advance. They have been making but little progress, taking little steps from time to time. Since 1884, up to the present day these little steps as a whole constitute an immense advance, it is true, but twice the distance would have been bridged if the steps had been greater than they were. I am fully convinced that the time has come when somebody ought to take these steps. Many of our schools should take a step in advance in regard to the preliminary requirements, the subjects of the special course, and the requirements in the fundamental principles.

**Longer Terms
Advised.**

I am fully convinced that no one can prepare a student in three years of seven months each, as well as they can in four years of nine months each. It seems to me that the time has arrived when the dental course should be extended; either the term should be lengthened to eight or nine months, or the number of terms themselves should be lengthened. Many of our schools have attained such prestige and power that they would be fully justified in announcing that four years of seven,

eight or nine months be required in the future for graduation. If eight or ten of our prominent schools would take such a course they would command the situation. It would draw a line of demarkation between the better schools and the poorer sort, one which would be apparent to everybody. The inferior schools would necessarily have to adopt the same course or close their doors.

I am well aware of the existing fear that by lengthening the term or increasing the number of years for graduation, that the number of students would be lessened. That is possible and yet it is not certain. Everybody who takes up a course of this kind, everyone who would be worth having, would desire to be in a first-class school if circumstances would permit. You say that a good many do not come into the first-class school. Why? Because they have not a just appreciation of our profession nor what it means to be a member of it. I had hoped during the last year that a number of our schools would take this position. If they did it would mark an era in the dental education of this country which would ever be remembered and appreciated. It would make it possible to turn out only the very best of men from our schools. I have often signed diplomas with a blush on my face knowing that the person to whom it was granted was not as good as he ought to have been, even though he had passed over the required road. The authorities under whom we are working, said "He is competent to receive this indorsement" and the indorsement is for that reason often made under protest. All this, it seems to me, is sufficient inducement for us to take the required step.

We have labored in years past to have a standing in the medical profession, to be recognized as professional men, and a great deal has been accomplished by it, much more than we could have expected. Perhaps, dentistry has been recognized as a part of the great healing profession in a greater degree than was fully warranted by the facts. Dentists are now accepted in medical societies nearly everywhere. All the city and state medical societies admit dentists, receiving them on the same level with every medical man. They are recognized as a part of the common body. The National Association also admits them; also the International Association. Every international association, with possibly one exception, has admitted dentists to all their congresses since 1881. They have had a section of Stomatology or Dental Surgery, which practically consists of dentists. All this goes to show that there is a readiness on the part of the medical profession to recognize well-qualified dentists. Then, again, medical schools have in many instances invited dentists to come in and organize dental departments in connection with their medical schools. In many instances it has been accepted and in some it has not. I know of

one medical school which urged a number of dentists for years to organize a dental department in connection with their school. They at first refused, but finally accepted the invitation and they organized a very good college, one which proved a decided success. That is only one of many instances. Universities have often asked that dental departments be organized in connection with them. That is a recognition which ought to be appreciated. We ought to endeavor to come up to the required standard, a reasonably good standard at least. It is not possible that some of our colleges be ready at once to take some advanced steps further along than it seemed possible to attain by means of the National Association of Dental Faculties. There are so many men there who seem to think that taking advanced steps of this kind would be equivalent to an annihilation. I do not think that would be the case because all the colleges connected with those bodies would be willing to take a four years' course and admit only such students who have taken a high school course. All others should be kept out of the profession and a great many of them ought to remain out.

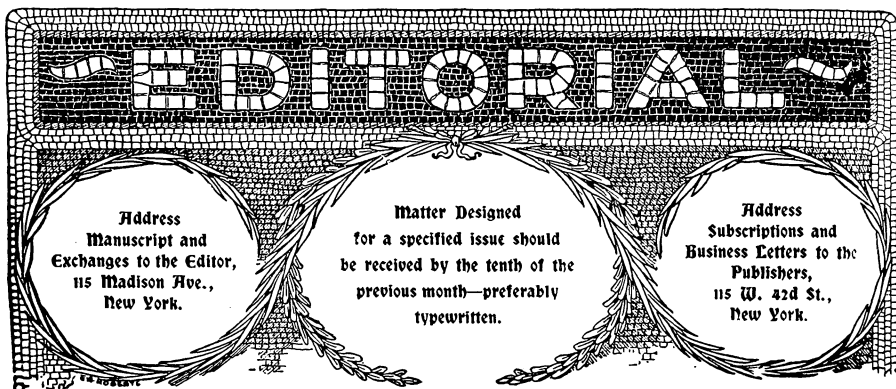
I do not see that there is any hope of getting all the schools in that association to adopt that standard, but if we could have a number of schools and many have signified their willingness to do so, we could accept for admission a two years' preparation for entrance to the second year in a high school. Possibly that could be done. One way is to adopt all these requirements at once and recast the whole schedule, or, it might be introduced gradually. The course might be increased to four years or the years might be lengthened to eight months and the entrance requirement be satisfactory evidence of entrance to the second year of the high school. Would it be better to come squarely, right up to the point at once, or to come up gradually? Some schools would be willing to do it gradually and some would be willing to do it all at once. That would certainly be a great step in advance and these are some of the points that are worth thinking about.

I was bold enough some time ago, to correspond with all of the schools in regard to the points which I have mentioned. I have received replies from most of them and five or six are willing to adopt a four years' course and an eight months' term, and half of them are willing to require a high school graduation for entrance. Some five or six have said they are willing to adopt the advance at once. I am much interested to know what the result will be. Whether it is best to take that step or whether it is best to go slow, are questions we must think about. I should like to see the step boldly undertaken at once, or at least within a year. You might for example make high school graduation a requirement for entrance and let the four year

course run over until 1901. Then lengthen the course to four years of nine months each. Then the question comes up what arrangement would be made in the prosecution of the work. There would undoubtedly be a diversity of opinion and uniformity could only be arrived at by a free discussion of the whole question. I think that the student should for the first two or three years be put right in the medical department and take the same work as the medical class, fulfilling all the requirements demanded of the medical student up to that time. That would give them the fundamental principles in good shape. I am convinced that we have made a mistake in giving the student from six to eight different studies to be pursued at the same time. It is more than he can well carry. The best plan would be to have a fewer number of studies and to require more work and great concentration of the student. The first year they ought to take only a few studies and master them well, and in the second year the remaining studies could be taken. After the second year the work should be confined only to the special work in the department of dentistry. That has been thought of and seems to receive favorable consideration. We have been requiring our students to study too many branches at the same time. There are some students who are bright and intelligent and who can carry almost any number of studies. As these are exceptions, however, we can not be governed by them. The general conditions must be taken into account and we must be guided by the capabilities of the largest number of students.

These are some of the points under consideration and I am very glad to have so many of you make reference to some of these points. We should insist that our entrance requirements be made stronger than they are; the student should not only have a knowledge of the elementary branches, but should be a student and know how to study. We cannot of course arrive at a very high degree of attainment with one jump, but something should be done in that direction.





State Interchange of License.

A very important meeting recently occurred in Chicago, whereat the subject of dental education was discussed. This meeting was held at the instigation of Dr. Talbot, who is to be highly commended and congratulated both for his idea and for the success which has attended the venture. No more interesting discussion of this always interesting subject has occurred in many years. The report of this meeting begins in this issue, the whole being unfortunately too lengthy for publication in a single number.

During this discussion Professor Jonathan Taft announced it as his opinion that four year courses should be established by the leading colleges, regardless of whether the smaller schools would approve or not. He likewise advocated high school graduation as a preliminary educational requirement. Furthermore, he made the most interesting statement that after correspondence with all the colleges he could say that at least six of the schools are ready to adopt such a course and such a preliminary requirement.

Immediately after his return to his college comes the news that the University of Michigan has adopted a four-year course and a preliminary education equivalent to graduation from a high school, this to take effect Sept. 25, 1901.

Moreover, the charter of the Detroit Dental College compels that school to conform to the requirements of the Dental Department of the University of Michigan, so that both schools must be under this higher standard. Better still, the State Dental law demands of the State Board of Dental Examiners that they license only those who exhibit the same education as that afforded by the University of Michigan. Thus one more state comes within the law of New York State in relation to interchange of license.

**The Best Way
to
Achieve Reciprocity.** It being an indubitable fact that it is desirable that a licensed practitioner should be able to practice his profession in any of the United States, many plans have been advocated for bringing about this end. Not a few have claimed that we should have a National Degree granted under a law of the United States, which law should compel recognition by all of the states. The advocates of this plan either overlooked or did not comprehend the Constitution of the United States, which guarantees to all of the states sovereignty within their distinctive borders. While it is true that the states must conform to certain fundamental dogmas of the national constitution, such as according equal rights to all men, there is nevertheless nothing which restricts the several states from making such police regulations as their legislatures may deem wise for the best interests of their separate communities.

All state dental laws are within the category of those relating to the police powers, and, therefore, it is futile to approach the Congress of the United States with any suggestion that it should pass a law compelling state interchange of licenses to practice dentistry. The law if passed could not be enforced, as such interference with the police powers of the states would be nugatory, unless authorized first by an amendment to the Constitution of the country. There are few perhaps so fatuous as to suppose that the dentists have influence enough to effect an amendment to the Constitution which in operation would restrict state sovereignty.

There is a dim vision of a National Degree in Dentistry to which we may nevertheless look forward; but that must come with the establishment of a great National University of learning, in which there might be a dental department, managed by real professors, by which

is meant not alone men having dental knowledge, but likewise skill in pedagogics. It is readily presumable that the various legislatures would grant recognition to graduates of such an institution.

Meanwhile New York State seems to have found the best, if perhaps the slowest way of reaching a solution of the great problem. The metropolitan state has set a high standard of education as a requirement for license. To states which will elevate their standard as high, New York offers interchange of license. This has already been effected with New Jersey, and it has seemed probable that Pennsylvania will shortly be included in the agreement. The news from Michigan paves the way for a fourth member, and if those declared by Dr. Taft to be ready to follow his lead, should do so, within a few years there could be reciprocity between the more important states. With this effected, there is no reason why other states should not band together even though upon a lower standard, since it is claimed that some communities are not yet ready for such drastic educational measures. If these were nevertheless united under some agreement whereby licenses would be interchangeable, we would then have at once a great improvement in present conditions. We might have two sets of states interchanging licenses and those working under a lower requirement might nevertheless accept licenses from states in the body working under the higher standard. Thus the men licensed under the higher standard could move to any state, an advantage which would operate to advance the standard of the lower grade states, until all should reach the same standard.





Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.



Illinois has long possessed a vicious law under which it was possible for irresponsible men to obtain charters for colleges authorized to confer degrees. This has made Chicago the headquarters for many degree-selling fraudulent colleges. The matter was publicly ventilated in the report of the Committee on Foreign Relations of the National Association of Dental Faculties, at the annual meeting held two years ago in Omaha. This report was a scathing denunciation of the law, which it pronounced a disgrace to the state. The Committee was continued by the National Association and they were authorized to expend such sums of money as were necessary in the further prosecution of the investigation.

**Fraudulent
College
Suppressed.**

The report aroused a great deal of feeling among the educators of the state and a meeting of representatives of the various degree-granting literary institutions was called and a committee was appointed consisting of Presidents Harper of Chicago University, Rogers of Northwestern and McClure of Lake Forest to memorialize the legislature and to endeavor to place the educational affairs of Illinois on a better basis. The report of the Foreign Relations Committee was widely circulated. It was presented before the legislature and extracts were printed in circulars and in the newspapers.

The efforts of the committee failed, but the counsel of the Foreign Relations Committee introduced another bill, which became a law, authorizing the annulling of the charters of any colleges which granted degrees improperly. The Illinois State Board of Health was already at work toward the same end and the Foreign Relations Committee joined forces with that body. The consequence has been that the conductors of the "Independent Medical College of Chicago," which has advertized openly in the newspapers that it would furnish diplomas for a consideration, have at last been caught. It was found when they were arrested that they were in possession of *twenty-four* different charters, so that when one was annulled they could immediately operate under another.

These men are now in jail, and it is hoped that the worst of the fraudulent colleges is broken up and that its fate will deter others. It is believed that this fraudulent institution has sold in this country and in Europe more than a thousand fraudulent diplomas.

In recognition of the important services of the Chairman of the Foreign Relations Committee of the National Association of Dental Colleges, Lake Forest University at its late Commencement conferred upon Dr. W. C. Barrett of Buffalo, the honorary degree of Doctor of Laws (LL.D.).

**Strengthening
Rubber Plates.**

Dr. Herbert Ziele, of Dunedin, New Zealand, recommends the following method of making rubber plates so as to render them less liable to fracture: "When the gum is too full and does not allow of gum teeth being used for the anterior teeth they are naturally set on the plaster and as the bite is generally very close in these cases there is very little rubber to support the teeth. The case is turned out in the usual way but in a few days the patient returns with the plate minus one or more teeth; which are generally intact but have been drawn away from the rubber. The following will strengthen this weak plate and prevent the irksome trouble of repairing. After the waxed case has been satisfactorily tried in, remove it from the model; and as there is generally a small piece of gum-work extending from the first or second bicuspid to the back of the plate it is necessary to remove this by cutting it flush with the necks of the teeth. Now invest the case in fire clay and plaster with the cutting edges of the teeth upwards, which you slightly cover over with the investment. It is just as well to strengthen the investment with a ring of copper wire to prevent it cracking and so dislodging the teeth in the subsequent firing; this wire is gently pressed into the investment before it hardens. When dry remove all wax thoroughly with the boiling water and trim down the investing material so as to expose all the pins to view but being careful to keep the teeth

covered as much as possible. Now anneal a small piece of platinum or dental alloy wire (about $4\frac{1}{2}$ inches) and bend it so as to come in contact with one or preferably both pins of each tooth, attach this wire to the pins of all the teeth and solder. Should there be a tooth which is rather difficult to make the wire touch lay a small piece of platinum plate across so as to make the solder run across to the pins. Another method is to get fine platinum wire and starting at the second molar wind it round the pins, twist it over to the first molar and wind it round its pins and so on till the whole series is bound together. After this is satisfactorily done apply your flux to the pins and wire and lay several pieces of solder to each tooth; heat in the usual way preparatory to soldering and solder. After cooling very carefully the investment is removed from the teeth and we now have them soldered in a band and when this is applied to the model it should fit as accurately as before. Now wax up as before flask, pack, and vulcanize in the usual way packing white rubber between the central teeth. When finished off it will have the appearance of an ordinary case; but will be infinitely stronger and you will never have to repair the case unless the teeth have been fractured by a blow or a severe knock."

College Prof. W. Edward Grant, Dean of the Louisville College of Dentistry, announces that his
Commencements and school has been changed from a spring and summer
Announcements. school to one having sessions during the fall and winter. Under the new regime, they will open on October 10, and will occupy a commodious new building thoroughly equipped, which will be used exclusively for the work of dental education.

The New Orleans College of Dentistry completed its first scholastic year and held its commencement at Tulane Hall on June 4, graduating three men. The institution began its career in November, 1899, with thirty-five matriculants. Their course covers three years, and the college was able to organize a senior class, owing to the fact that the students now graduated had completed two years' of instruction at other colleges. It had been intended to offer a medal to the graduating class, but it was found that the three stood so nearly equal that it would have been an injustice to make any choice.

The North-Pacific Dental College, on May 1, held its first commencement since it moved from Tacoma, Wash., to Portland, Oregon. The faculty and students greatly appreciate the action of the National Association of Dental Faculties, in approving the removal of the school from Tacoma, and the step seems to have been eminently wise, as the matriculants in Portland numbered eighty-six, while the

school in Tacoma never attracted more than thirty-five. With two recognized schools in San Francisco, and a new one asking for recognition, a good school in Los Angeles, another in Denver, and this school in Portland, it would seem that the Pacific Coast is amply provided for, and, in the immediate future, the establishment of new schools should be discouraged. It is much better to improve dental education by advancing methods of instruction, rather than by encouraging the number of schools.

Writing from Berry, New South Wales, Dr. Laurits Bosgard, speaking of taking impressions in difficult cases, recommends mixing plaster of Paris with one-third of its bulk of finely powdered pumice stone. He says that in cases where there are heavy undercuts or teeth standing alone, this mixture breaks more readily, whilst it gives as clear an impression as with plaster alone.

Dr. Robert Wakefield, of New York, recommends the subjoined as an anesthetic free from toxic effects or sloughing:

R

Cocain mur., grns v
Boracic acid, grns viii
Ext. Hamametis,
Aqua distil. āā ȝ i

Dr. J. C. Schuller, of Center, Texas, says that very good saws for the engine can be obtained by applying to a jeweler, and asking him to attach ratchets from old watches to the end of engine points. He says they are of the highest tempered steel with saw edges and well sharpened, of various sizes and thicknesses, and that the jeweler can afford to furnish them, mounted, for about ten cents each.

Dr. M. S. Hoover, of Perry, Iowa, sends the following interesting account of a dentigerous cyst, a form of lesion which is rarely found.

**Dentigerous Cyst
in a Horse.**

"Lately I met a veterinary surgeon who gave me the following account of a multi-molar dentigerous cyst in a filly about two years old.

She was brought into the barn, and he found a running sore at the butt and in front of the right ear. This was opened up and two teeth were found and removed. They were about one and one-fourth inches long and three-fourths of an inch in diameter. The ulcer did not heal up, and it was examined again and another tooth removed; this was about four weeks after the first operation.

In about three weeks, a third operation was performed, and a fourth tooth removed. Some six weeks after this last operation, while

being led out of the barn, she fell dead, and a little work with knife and chisel disclosed the fact that a remaining tooth had been pushed, or on developing had migrated upwards and penetrated the floor of the cranium, projecting into the cranial cavity about one inch, but being covered by the lining membrane of the cranium. Another tooth was found, but it did not produce any pressure on the brain.

**German Dentists
Demand
Reciprocity.**

The following is from the organ of the Central Society of D. D. S., graduated in America: "In nearly all countries a D. D. S. may be a candidate for an examination, without being obliged to prove that he has gone through a certain course of studies, etc., with the exception of Germany. We therefore demand from the National Association of Dental Faculties to suspend in their schools the easy conditions of study for German would-be dentists, until the D. D. S. in Germany are enabled, by reason of their legitimately acquired D. D. S. diplomas, to summarily be admitted for the examination in Germany.

**Disciplined
for
Advertising.**

We are apt to claim in this country that we have nothing to learn in connection with the practice of dentistry. The following account, taken from the *British Dental Journal*, indicates that our English confreres have found a quite satisfactory means of dealing with quackery.

"In the case of Mr. Arthur Oglesby, the Council received the following report from the Dental Committee:

"The complaint against Arthur Oglesby having been referred to the Dental Committee to ascertain the facts the Dental Committee beg to report as follows:

"On February 27, 1900, the following parties attended before the committee and were duly heard, namely: Hugh Woods, M.D., B.A., the honorary general secretary of the London and Counties Medical Protection Society, Limited, the complainants, and the said Arthur Oglesby. The committee find that the following acts were established by the evidence: (1) that Arthur Oglesby was registered in the *Dentists' Register* on July 10, 1891, as having been in practice before July 22, 1878, and his address in the *Dentists' Register* is 21 Cheapside, Barnsley; (2) that Arthur Oglesby has systematically sought to attract professional practice by the issue of public advertisements of his name, address, appliances, and professional qualifications; (3) that in particular he advertises himself as D.D.S. University, Ill., which alleged diploma he admits that he obtained without visiting America or being subjected to any examination; (4) that the public advertise-

ments issued by Arthur Oglesby are highly objectionable; and (5) that Arthur Oglesby states that since the month of September, 1899, he has discontinued the issue of the advertisements which were brought before the committee. But he continues to advertise himself by the issue of an objectionable card in the local newspapers.

The evidence before the committee consisted of the following: (1) The statutory declaration of Dr. Hugh Woods and the advertisements therein referred to. (2) The oral statement of Arthur Oglesby and the advertisements referred to by him and transmitted by Arthur Oglesby to the Council. (3) The following documents: Letter of complaint by Dr. Woods dated August 10, 1899. Letter from the Registrar of the General Medical Council to Arthur Oglesby, dated September 12, 1899. His reply of September 13, 1899. Further letters from him to the Registrar of December 2, 1899. The like of January 19, 1900. Paragraph from the *Lancet* and specimens of advertisements referred to by Arthur Oglesby. Letter to the General Registrar dated January 20, 1900, and the newspaper extract enclosed therewith.

WM. TURNER, Chairman.

"The president pointed out that this report must be taken as conclusive with regard to the facts, and what the Council had now to determine was whether it would deal at once with the report or hear parties to the inquiry upon the report or any question arising upon it.

On a vote being taken, it was decided by 13 to 2 to hear the parties.

"Mr. Oglesby availed himself of the opportunity that this vote afforded him. He said that before September last he had no idea that he was doing wrong. Although he had advertised for years, he did not advertise in a way that he, at least, thought was objectionable—that was to say, in the way of exhibiting appliances or show cases, stating prices, or as having a secret process. And he wished to say that in England a man was generally cautioned before he was brought up before a tribunal like the General Medical Council, but he had never had the slightest caution or remonstrance before being called upon in November last to answer the charge. That did not seem a generous action on the part of such a body as this. He did not think he had much to say about the report. With reference to that paragraph in it which stated that he had systematically sought to attract practice by the issue of public advertisements of his name, address, appliances, and professional qualifications, he wished to emphasize his statement that he had not exhibited any appliances, or show-cases, or anything of that sort. He wished also to say that when he got the notice from the General Medical Council he

ceased to use the advertisements complained of, and simply used a business card. If the committee must regard the card as objectionable, every advertisement in the land was such, and if a person was not permitted to use such a card as his, no man who was a dentist should be allowed to advertise in the future, so that dentists might know where they were. With regard to the next paragraph, he had to say that he obtained the degree referred to there upon the production of proofs of his knowledge and skill. He had no wish to go against the General Medical Council in any way, and he was prepared to submit to anything that they considered just.

The President: Did you not receive the Council's notice to dentists in regard to this matter?

Mr. Oglesby: Not the slightest caution.

The President: Did you receive the notice from the Council relating to the issue of advertisements by dentists as objectionable?

Mr. Oglesby: I did receive that notice, and so soon as I received it my advertisements ceased.

Mr. Teale: Did you discontinue all advertisements?

Mr. Oglesby: Except the card.

Mr. Teale: What about the large advertisement on the house, the whole end of which was painted up?

Mr. Oglesby: I never thought of that. It continues. There is nothing objectionable on it—only my name and address.

Dr. Glover: Simply your name and address?

Mr. Oglesby: I think that is all. It is three or four years since it was done, and if there is any more it can be only two or three words.

Dr. Heron Watson: You say you are D.D.S. Did you pay for it?

Mr. Oglesby: Yes, sir; every degree is paid for.

The President: Oh, no.

Dr. Glover: Were you examined for it?

Mr. Oglesby: No, sir; I sent proofs of my skill and knowledge.

Sir Dyce Duckworth: You have never been in the United States?

Mr. Oglesby: No, sir.

Dr. Little (looking at Mr. Oglesby): It seems an extraordinary thing to believe that he has been in practice since 1878—that is twenty-two years. May I ask what his age is?

Mr. Oglesby: My age is 38 years.

The President: Then do we understand that you were in practice at sixteen?

Mr. Oglesby: I was in practice when I was twelve years old.

Dr. MacAlister: Independent practice?

Mr. Oglesby: Oh, no.

Dr. Woods, who was then asked if he had anything to say upon the Dental Committee's report, said that the only point on which he would like to speak was on the matter of dental advertising. He agreed with Mr. Oglesby that it was time dentists should be clearly informed whether or not advertising by them was infamous conduct in a professional respect. That Mr. Oglesby had been selected to answer to the General Medical Council was no fault of his. Advertising by dentists had reached almost the lowest depths of advertising by any trade whatever, and it was absolutely necessary that it should be put a stop to. The only way in which this might be done was by presenting a concrete case, and he hoped the Council would not allow any consideration to interfere with their pronouncement that advertising of an objectionable character was infamous conduct in a professional respect.

Dr. McVail: Does Dr. Woods consider this man as only a representative of a class, or does he regard him—

The President: Order, order! That is not a matter that we can go into with Dr. Woods.

The Council then sat *in camerâ*. On parties being recalled,

The President said: The Council, Mr. Oglesby, have given very great consideration to your case, and they have come to the resolution that your name is to be removed from the *Dentists' Register*.

The decision in this case—as Mr. Tomes stated, the first of its kind is recorded officially in the following terms:

(a) That the Council do proceed at once to pronounce its judgment on the case.

(b) That on the facts found in the report of the Dental Committee it has been proved that Arthur Oglesby has been guilty of conduct which is infamous or disgraceful conduct in a professional respect.

(c) That Arthur Oglesby having been proved to have been guilty of infamous or disgraceful conduct in a professional respect the Council do direct the Registrar to erase from the *Dentists' Register* the name of Arthur Oglesby.

We regret exceedingly that a gross error was made in connection with our publication, in the April number, of an article, "Partial Necrosis of Superior Maxilla," which was there credited to Dr.

A. W. Montsanto. The author is Dr. A. M. Monsanto, and we extend apologies for the error.

**An Error
Corrected.**



George H. Cushing.

Dr. George H. Cushing died near Los Angeles, Cal., May 25, 1900, from uremia.

Dr. Cushing was born in Providence, R. I., May 11, 1829. In 1846 he entered Dr. Fischer's office in Providence as a dental pupil, and commenced practice as a dentist in Bristol, R. I., about 1848. He did not attend any dental college, but received a diploma from the Ohio Dental College in 1864, and an honorary diploma from Rush Medical College, of Chicago, Ill.

Dr. Cushing went to California in 1849 and practiced dentistry for a short time in San Francisco. He went to Chicago, Ill., in 1857, and entered into partnership with Quinlan Bros. In a few years, he opened an office for himself, and continued to practice in Chicago until 1898, when he gave up his practice there and went to California on account of failing health, and remained there up to the time of his death.

He was a member of the National Dental Association, having served both as president and secretary of that body; a member of the Illinois State Dental Society, serving as president twice; also, a member of the Chicago Dental and Odontological Societies, of both of which he had been president.

Dr. Cushing leaves many friends throughout the country who sincerely mourn his loss.

Resolutions on the Death of George H. Cushing, M.D., D.D.S., Chicago, Illinois.

It has come to the notice of this society that our beloved brother and fellow practitioner, Geo. H. Cushing, one of the founders of this society, departed this life May 25, 1900, at Los Angeles, California. Therefore, be it

Resolved, That we mourn his loss as personal, because every member of the society knew him and loved him as a friend, counsellor and guide. This is no ordinary expression from a committee appointed to draw a memorial, but one where every member feels that it is a personal loss to no longer see and feel the presence of one much beloved.

Be it further resolved, That in Dr. Cushing we mourn the loss of one who was in every sense an inspiration to do one's best in all the complex hours of life's duties. He was monitor, teacher and helper in all emergencies. His life was devoted to his profession in a sense little understood by the thoughtless, and his influence for good was far-reaching and always to be relied upon.

We feel that in this feeble tribute to the vast labors he performed for forty years, that we fall short in our estimation of them, because no one was more staunch in his devotion to public or private duties than our departed friend. He had his faults, but they were so obscured by his noble and gentle nature that few knew of them, so they must lie in an oblivion so perfect that only his most bitter enemy may recall them. For us he was a pattern of the kindly professional gentleman and devoted friend.

We extend to his family our condolence and this expression of our sorrow. We will all go to his last resting place feeling that life is only a brief day and we will meet him again in the near future, where all is peace and serenity.

Resolved, That a copy of this tribute be sent to the family of the deceased and to the dental journals for publication.

(Signed)

A. W. HARIAN,
TRUMAN W. BROPHY,
JOSEPH W. WASSALL,
Committee.

Report of the Committee on Necrology of the Dental Society of the State of New York.

The Committee on Necrology would respectfully report that it is their sad duty to report the death of two of the members during the past year, viz.:

Dr. Robert I. Verplank, of Albany, who died August 27, 1899, and Dr. L. S. Straw, of Newburgh, who died October 9, 1899.

The committee has prepared the accompanying minutes upon the death of these gentlemen which they respectfully offer for your consideration.

(Signed)

WILLIAM JARVIE,
S. B. PALMER,
Committee.

Dr. Robert I. Ver Plank.

The Dental Society of the State of New York learns with sincere sorrow of the death of its fellow member, Dr. Robert I. Ver Plank, which took place in the city of Albany, August 27, 1899, of typhoid pneumonia, after a few days' illness.

Dr. Ver Plank was well known throughout this section of the State as an able and conscientious dentist, and was honored and loved by his associates. He became a permanent member of this society in 1897, and had been one of the most active and efficient members of the Committee on Legislation since its organization.

In his death we lose an upright and faithful member, and one ever ready to respond to the call of duty.

Dr. Leudon S. Straw.

Leudon S. Straw, M.D.S., was born at Hopkinton, New Hampshire, January 22, 1825, and died at Newburgh, N. Y., October 9, 1899, in his seventy-fifth year.

He began his professional life with his father, Samuel Straw, M.D., at Bangor, Maine, in 1841, and continued the practice of dentistry up to the time of his death, making over fifty years of continuous practice. He was one of "The Argonauts," or, as they were more familiarly called, "Forty-niners," and was a member of the famous "Vigilance Committee" which was a necessity in those days of rapine and murder.

He went to San Francisco, by way of Cape Horn, making the trip in one hundred and fifty-six days. He remained in California five years engaged in the practice of his profession and in mining. Afterwards he returned to Bangor, Maine, by the Isthmus route, the trip being made in twenty-two days. He remained in Bangor until 1857, when he located in Newburgh, and remained there during the remainder of his life.

He was always deeply interested in everything pertaining to his profession. He was a charter member of this society and was elected president three times in succession, being the first one to receive that

honor. He came from good old revolutionary stock, and was always ready to respond to the call of duty or pleasure. He was passionately fond of music, and was an active member of several local organizations, and his judgment and experience was eagerly sought for. He had deep religious convictions and made no attempt to cover them up. He was tolerant with the belief of all, but had no use for hypocrites, and would denounce them in the strongest terms if he had an opportunity.

He was an enthusiast in his profession and almost all out-of-door recreation, and enjoyed them as fully as any one could, always looking upon himself as one of the youngest. Dr. Straw had been in ill health for nearly six months, and for that length of time had been mostly confined to his home. His wife and one daughter survive him. He was the second president of the Second District Dental Society. There are few men who possess so many lovable qualities as did he, and when he won a friend he retained him.

Combining a cheerful, genial disposition, and sterling qualities with a robust vigor of constitution, he had great personal attractions, and was a man of many friends.

Theodore Menges.

Whereas, God in His infinite wisdom has removed from our midst and from the work in which he was becoming so great a force, our friend and teacher, Dr. Theodore Menges, and

Whereas, We, the students of Northwestern University Dental School, realizing the great loss that is sustained thereby, be it

Resolved: That we bow in humble submission to the will of Almighty God, and hereby express our heartfelt sympathy to the bereaved wife and sorrowing friends, and to the faculty of Northwestern University Dental School, of which he was a valued and honored member; and be it

Resolved, That each one having lost a personal friend, we express our appreciation of his untiring efforts and devotion to the upbuilding of the dental profession at large, to the Northwestern University Dental School, and to the individual interests of its students, and be it further

Resolved, That a copy of these resolutions be presented to Mrs. Alice Menges, to the faculty of said institution, and that copies be sent to the leading dental journals for publication.

ELMORE T. HULL.

L. J. SCHNEIDER,

WM. A. KAAKE,

EUGENE MAGINNIS.

Chicago, June 2, 1900.

Charles W. McCall.

After a week's serious illness, Dr. Charles W. McCall, of Binghamton, N. Y., died at his home on June 6, 1900.

Dr. McCall was the son of Dr. S. H. McCall, who was for years a prominent dentist of Binghamton. He was born in Franklin, Delaware county, on August 24, 1850.

For twenty-three years Dr. McCall has been one of the most prominent members of his profession in Binghamton. In the sketch of his life, Lawyer's history states that he was graduated from the New York Dental College in the class of 1876, having pursued his studies there while practicing in Orange, N. J., the profession, which he had previously studied in his father's office. The next year he came to Binghamton, and became associated with his father in practicing dentistry, which practice he has continued since the death of his father.

He has always been an active member of the Sixth District Dental Society, having twice been President of the Society. He was a member of the First Presbyterian Church. Since the organization of the Board of Trustees of the Barlow School, he was a member of that body, and he was a prominent member of the Dobson Club.

Dr. McCall was retiring and unassuming, a man of marked culture, and one whose genial nature made friends of all who knew him.

Nathaniel Ware Hawes.

Dr. Nathaniel Ware Hawes, of Wrentham, Mass., one of the earliest active members of this Society, died at his residence in that town, on Sunday morning, April 1, 1900. Dr. Hawes was an honored member of the dental profession, and had practiced dentistry in Boston since 1865.

He was born in Wrentham, August 12, 1838, in the same house in which he died. He was educated at Day's Academy in Wrentham, and studied his profession with Dr. George E. Hawes, of New York City. After this he graduated from the Harvard Dental School, and for a time practiced dentistry in Wrentham and Foxboro.

He was a demonstrator in operative dentistry and was afterward appointed assistant professor in the same chair in the school from which he

graduated. Dr. Hawes contributed valuable papers to the literature of his profession, and was prominent in Masonic circles, as well as in public affairs in his native town. He was a man of great generosity and unlimited geniality of disposition. His unbounded hospitality is best shown to us by the delightful outings that we had with him in his beautiful home at Wrentham. We shall miss his familiar face and the hearty grasp of his hand.

Whereas, It has pleased our Heavenly Father to take from us our honored member, Dr. Nathaniel Ware Hawes;

Resolved, That we, the Boston Society for Dental Improvement, desire to place upon our record our high appreciation of his professional standing, that we mourn his death as a personal as well as a professional loss, and desire to testify to our admiration for his efforts given at all times to advance the profession of his choice.

Resolved, That a copy of these resolutions be sent to his family; that they be spread upon the minutes of our Society, and that a copy be sent to the professional journals.

H. S. DRAPER, Secretary.

R. R. Andrews, F. M. Robinson, Committee.

Boston, May 15, 1900.

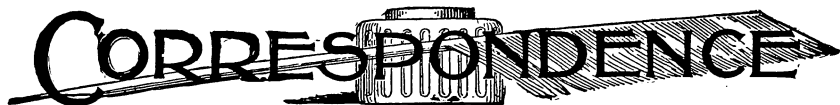
H. M. Mallery.

Dr. H. M. Mallery died February 20, 1900, at Springfield, Mass., after a short illness.

Dr. Mallery was born in New Ashford, Mass., July 25, 1861, and commenced the practice of dentistry in Pittsfield, Mass., during 1883, where he continued until 1893, when he removed to Springfield and practiced in that city until January 1 of the present year, at which time he was compelled to go to Florida on account of failing health. He died shortly after his return from the South. A widow survives him.



CORRESPONDENCE



Pyorrhea Among Railroad Men.

Editor ITEMS OF INTEREST.

Dear Sir:—Having read with some interest the article in June issue of ITEMS OF INTEREST, by Dr. R. O. Williams, and being desirous of seeing continued the discussion on the causes and origin of this most important disease, I beg to differ from the Doctor, when he states that it is worse or more prevalent among railroad men than others.

My limited observation and experience is, that it is found most frequently in the mouths of the strong and robust, such as are of course in the employment of the railroads, yet found as often in other vocations. Nine-tenths of the cases that come under my care are those of strong constitutions, the disease usually making its appearance between the ages of twenty and thirty-five, there being, of course, exceptions. I have seen only a few cases under twenty-five that showed the symptoms to any marked degree. The Doctor being located as he is, in a railroad center, would, as a natural consequence, find many cases in the mouths of the workmen, or a larger per cent of such cases with that class.

Yet I cannot believe their vocation has any effect upon the disease, pyorrhea, and were the Doctor located out of a railroad center, where his patients were of the same constitution as are his present, he would no doubt find just as many cases.

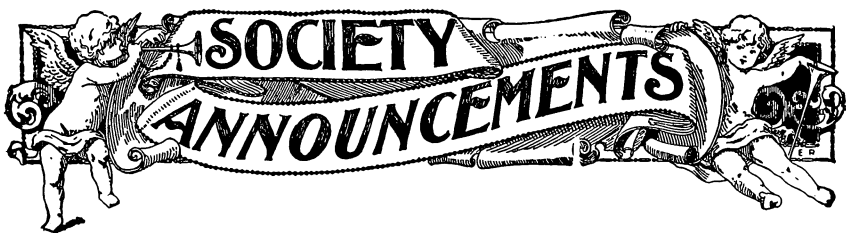
I am one who thinks this disease hereditary. Not solely, for local conditions I believe may as often be the cause. Why should it not be as hereditary as other diseases, such as syphilis? On the other hand, why should it not be induced by local conditions, just as may phthisis, syphilis, etc., etc.?

Again, my observation is that the majority of these cases are found in mouths of good, strong teeth, that are practically free from decay, though I have seen some very much the reverse.

Very truly yours,

OLIVER D. CAGE, D.D.S.

Stillwater, Okla., June, 1900.



National Society Meetings.

- International Dental Congress, Paris, France, August 8-14.
National Dental Association, Old Point Comfort, July 10.
National Association of Dental Examiners, Old Point Comfort,
July 13.
National Association of Dental Faculties, Old Point Comfort,
July 13.
Southern Branch National Dental Association, Old Point Comfort,
July 9.
-

State Society Meetings.

- Arkansas State Dental Association, July 2.
Maine Dental Society, Brunswick, July 17, 18.
Minnesota State Dental Association, Minneapolis, September 5, 6, 7.
Missouri State Dental Association, Louisiana, July, 10, 11, 12, 13.
New Jersey State Dental Society, Asbury Park, July 18, 19, 20.
Ohio State Dental Society, Columbus, December 4, 5, 6.
Pennsylvania State Dental Society, Reading, July 5, 6, 7.
Rhode Island State Dental Society, Newport, July 10.
South Carolina State Dental Association, Harris Lithia Springs,
July 3.
West Virginia State Dental Society, August 30, 31.
Wisconsin State Dental Society, La Crosse, July 17, 18, 19.
-

Local Society Meetings.

- First District Dental Society of the State of Illinois, Galesburg,
September 28.

National Association of Dental Examiners.

The seventeenth annual session of the National Association of Dental Examiners will be held at the Hotel Hygeia, Old Point Comfort, Va., commencing Friday, July 13, 10 a. m., 1900. Delegates will present certificates signed and sealed by the respective officers of their several boards; suggestion has been made that delegates bring reports of examinations as conducted by the appointees of the State Superintendent of Public Instruction.

Hotel Hygeia rates will be \$2.50 per day. On paying full rate fare one way to Old Point Comfort take receipt from local ticket agent. The Old Dominion Steamship Co., foot of Beach street, New York City, will make an excursion rate of \$12.00, meals and berth included. One way, \$7.00, sailing Monday July 9, and Thursday, July 12, 3 p. m.

CHAS. A. MEEKER, D.D.S., Secretary.

29 Fulton street, Newark, N. J.

New Jersey State Dental Society.

The thirtieth annual meeting of the New Jersey State Dental Society will be held in the Auditorium, Asbury Park, N. J., ten a. m., Wednesday, July 18, and continuing the 19th and 20th.

The headquarters of the society will be at the Hotel Columbia, an up-to-date hotel. The rates will be, one in a room, \$3.00 per day; two in a room, \$2.50 per day. The officers and members of the various committees will be on hand at this hotel from July 16.

ESSAYS.

July 18, 8.15 p. m.

"Facing Gold Crowns with Porcelain," by Dr. George Evans, New York.

"Non-Cohesive Gold," by H. B. Tileston, D.D.S., Louisville, Ky.

"The Combination of Oxyphosphate Cement with Gold and Amalgam Fillings," by F. L. Fosheim, D.D.S., New York.

Thursday, July 19. Session at 10 a. m.

"The Eyes and Teeth—Some Concomitant Pathological Changes," by Eugene Underhill, M.D., Philadelphia, Pa.

"Expansion and Contraction in Cements," by W. V.-B. Ames, D.D.S., Chicago, Ill.

"Dental Jurisprudence in Its Relation to State Examining Boards—The Profession—The Laity," by J. Allen Osmun, D.D.S., Newark, N. J.

Responded to by G. Carleton Brown, D.D.S., C. S. Stockton, D.D.S., and R. M. Sanger, D.D.S.

Thursday Evening Session.

"The Blood," by Thomas C. Stellwagen, Jr., D.D.S., Philadelphia, Pa.

"A Quarter of a Century of Official Life," by Charles A. Meeker, D.D.S., Newark, N. J.

LIST OF CLINICS.

Thursday, July 19, 2 p. m.

Under the supervision of Dr. Frank L. Hindle, chiefs and aids.

1. Dr. W. V.-B. Ames, 36 Washington street, Chicago, Ill., "Some Possibilities of New Process Oxyphosphate of Copper."

2. Dr. F. L. Fosheim, 31 East 60th street, New York City, "The Combination of Oxyphosphate Cement with Gold and Amalgam Fillings."

3. Dr. John I. Hart, 118 West 55th street, New York City, "Table Clinic, Demonstrating the Different Stages in the Insertion of a Porcelain Inlay."

4. Dr. Joseph Head, 1415 Walnut street, Philadelphia, Pa., "Porcelain Inlays."

5. Dr. F. C. Barlow, 646 Jersey avenue, Jersey City, N. J., "Rubber Dam Adjustment."

6. Dr. Cephas Whitney, 39 Duke street, Kingston, Jamaica, subject to be announced.

7. Dr. W. A. Capon, 406 Real Estate Trust Building, Philadelphia, Pa., "Anchoring Porcelain Sections with Platinum Wire."

8. Dr. George Evans, 55 West 39th street, New York City, subject to be announced.

9. Dr. W. L. Mason, Red Bank, N. J., "All Porcelain Detachable Teeth, Consisting of Bicuspid and Molars."

10. Dr. Robert H. Nones, Philadelphia, Pa., "Something Pertaining to Prosthetic Dentistry."

11. Dr. F. Lee Hollister, 89 North Franklin street, Wilkesbarre, Pa., will demonstrate the use of Dr. Edward H. Angle's Expansion Arch in Orthodontia and the Adjustment of his Fracture Bands in Dislocations and Fractures of the Maxilla.

Friday, July 20. Morning Session, 10 a. m.

12. Dr. F. A. Coney, Doyleston, Pa., "Filling with Improved Electric Mallet, Using Globe Foil No. 4 and No. 30, Same Filling."

The New Jersey State Dental Society, through the undersigned committee, cordially invite all reputable dentists of New Jersey, who are not now members, to become members of the above named Society this year. Naturally you will feel more "at home" if a member, but whether you join this year or not, come to the meeting at Asbury Park, July 18, 19 and 20.

Propositions for membership may be made to any member of the Society or Membership Committee:

Membership Committee: Dr. W. H. Pruden, Chairman, Paterson; Dr. N. W. Chitterling, Bloomfield; Dr. F. G. Gregory, Newark; Dr. G. M. Holden, Hackettstown; Dr. J. L. Crater, Orange.

New Brunswick and Nova Scotia Dental Societies.

Two years ago the New Brunswick and Nova Scotia Dental Societies met together, and it proved so successful that they decided to meet again.

St. John, N. B., has been decided upon as the place of meeting, and the time set is for August next, beginning on the 29th and continuing three days.

The members of both societies anticipate a good meeting and look forward to obtain both information and recreation during its session.

Clinics and papers for discussion will be provided, and all members of the profession who can do so, are cordially invited to attend the meeting.

The dental manufacturing companies and supply houses will exhibit.

FRANK A. GODSOE, Registrar.

74 King street, St. John, N. B.

Maine Dental Society.

The thirty-fifth annual meeting of the Maine Dental Society will be held in Brunswick, July 17 and 18, 1900. All dentists are invited to attend these meetings. The Executive Committee have arranged an interesting programme and hope for a large attendance.

Portland, Me.

H. A. KELLY, Secretary.

Wisconsin State Dental Society.

The thirtieth annual meeting of the Wisconsin State Dental Society will be held at La Crosse, Wis., July 17, 18 and 19, 1900. A cordial invitation is extended to all members of the profession to be present.

W. H. MUELLER, Secretary.

21 West Main Street, Madison, Wis.

Sixth District Dental Society of the State of New York.

The thirty-second annual meeting of the Sixth District Dental Society of the State of New York was held at Hotel Bennett, Binghamton, on May 2 and 3, 1900. Three well attended sessions were held, and interesting programme of essays and clinics were furnished, the clinics being given at the office of the Secretary.

Reports from the Treasurer and Secretary showed the society to be in a prosperous condition, and it was decided to hold the next semi-annual meeting at Oneonta, N. Y., on October 3 and 4, 1900. Fred. A. Ford, D.D.S., of Cazenovia; John V. Flaherty, D.D.S., of Chittenango, and Walter W. Barton, D.D.S., of Binghamton, were elected to membership.

The following officers were elected for the ensuing year: President, M. O. Lander, Delhi; Vice-President, F. M. Willis, Ithaca; Secretary, F. W. McCall, Binghamton; Treasurer, H. D. Whitmarsh, Binghamton; Censor, E. D. Downis, Oswego.

Central Dental Association of Northern New Jersey.

At the annual meeting of the Central Dental Association of Northern New Jersey, the following officers were elected for the ensuing year: President, H. S. Sutphen, Newark; Vice-President, F. G. Gregory, Newark; Secretary, N. M. Chitterling, Bloomfield; Treasurer, Chas. A. Meeker, Newark.

Executive Committee: J. S. Vinson, Newark; F. L. Hindle, New Brunswick; C. W. Hoblitzell, Jersey City; F. W. Fisher, East Orange; P. G. Voegtlen, Madison.

Harvard Odontological Society.

At the January meeting of the Harvard Odontological Society, the following officers were elected, and were inducted at the February meeting: President, Dwight M. Clapp, Boston; Recording Secretary, Joseph T. Paul, Boston; Corresponding Secretary, Robert T. Moffatt, Boston; Treasurer, Lyman F. Bigelow, Boston; Editor, Harry W. Haley, Boston; Executive Committee, Joseph T. Paul, chairman; William P. Cooke and Frank T. Taylor.

New York State Dental Society.

At the annual meeting of the New York State Dental Society, held at Albany, May 9 and 10, the following officers were elected for the ensuing year:

President, John I. Hart, New York; Vice-President, R. H. Hofheinz, Rochester; Secretary, W. A. White, Phelps; Treasurer, C. W. Stainton, Buffalo; Correspondent, H. D. Hatch, New York.

Illinois State Dental Society.

At the thirty-sixth annual meeting of the Illinois State Dental Society, held in Springfield, May 8—11, 1900, the following officers were elected:

President, J. G. Reid, Chicago; Vice-President, M. L. Hanaford, Rockford; Secretary, A. H. Peck, 92 State Street, Chicago; Treasurer, C. N. Johnson, Chicago; Librarian, J. T. Cummins, Metropolis City.

Executive Committee, C. R. Taylor, Streator.

Committee on Science and Literature, A. W. Harlan, Chicago.

Committee on Art and Invention, H. J. Goslee, Chicago.

Supervisor of Clinics, J. E. Hinkins, Chicago.

Members of Executive Council (terms to expire 1903), C. B. Sawyer, Jacksonville; M. L. Hanaford, Rockford; C. B. Rohland, Alton.

Board of Examiners: C. M. Robbins, Carthage; C. C. Corbett, Edwardsville; S. F. Dundan, Joliet.

Committee on Ethics: C. B. Sawyer, Jacksonville; J. D. Nicol, Peoria; Edmund Noyes, Chicago.

The Chicago Dental Society.

At the annual meeting of the Chicago Dental Society, held in the Stewart Building, Tuesday evening, April 3, 1900, the following officers were elected for the ensuing year:

President, Geo. W. Cook; First Vice-President, Geo. B. Perry; Second Vice-President, H. J. Goslee; Secretary, Elgin M. Whinney; Corresponding Secretary, C. S. Bigelow; Treasurer, A. B. Clark; Librarian, H. W. Sale; member Board of Directors, J. E. Yinkins; Board of Censors, W. V. B. Ames, chairman; C. N. Johnson, A. W. Harlan.

C. S. BIGELOW, Corresponding Secretary.

100 State Street, Chicago, Ill.

Odontographic Society of Chicago.

The following officers were elected at the annual meeting of the Odontographic Society of Chicago, for 1900:

President, T. L. Gilmer; Vice-President, L. S. Tenney; Secretary, F. H. Zinn; Treasurer, G. N. West; Board of Directors, J. E. Nyman, term expires 1901; A. B. Allen, term expires 1902; G. B. Perry, term expires 1903; Board of Censors, A. G. Johnson, chairman; F. E. Roach, J. B. Dicus.

F. H. ZINN, Secretary.

100 State Street, Chicago, Ill.

Vermont State Dental Society.

At the twenty-fourth annual meeting of the Vermont State Dental Society, held at St. Johnsbury, March 21, 22, 23, the following officers were elected for the ensuing year:

President, H. Turrill, Rutland; First Vice-President, C. W. Steele, Barre; Second Vice-President, J. A. Pearsons, Barton; Recording Secretary, Thomas Mound, Rutland; Corresponding Secretary, Grace L. Bosworth, Rutland; Treasurer, W. H. Munsell, Wells River; State Prosecutor, G. W. Hoffman, White River Junction; Executive Committee, J. H. Jackson, Burlington; H. Burbridge, Woodstock; C. H. Newton, Montpelier.

Next meeting will be held at Montpelier the third Wednesday in March, 1901.

THOMAS MOUND, Recording Secretary.

Rutland, Vt.